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1260-35 SIGNAL MULTIPLEXER/SCANNER

1260 VXI SWITCHING CARD

RACAL INSTRUMENTS

RACAL INSTRUMENTS INC.
4 Goodyear Street, P.O. Box C-19541, Irvine, CA 92718
Telephone: 714/859-8999, Fax: 714/859-2505

RACAL INSTRUMENTS LTD.
480 Bath Road, Slough, Berkshire, SL1 6BE, United Kingdom
Telephone: (0)628 604455, Fax: (0)628 662017

RACAL SYSTEMS ELECTRONIQUE S.A.
18 Avenue Dutartre, 78150 Le Chesnay, France
Telephone: (1)3955 8888, Fax: (1)3955 6735

RACAL ELEKTRONIK SYSTEMS GmbH
Frankenforster Strasse 21, 51427 Bergisch Gladbach, Germany
Telephone: 02204 92220, Fax: 02204 21491

RACAL SYSTEMS ELETTRONICA srl
Via Roma, 108/PAL. E1, 20060 Cassina de Pecchi, Milano, Italy
Telephone: (02) 9514717/737/770, Fax: (02) 9514522

RACAL

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This equipment contains voltage hazardous to human life and safety, and is capable of inflicting personal injury.

If this instrument is to be powered from the AC line (mains) through an autotransformer, ensure the common connector is connected to the neutral (earthed pole) of the power supply.

Before operating the unit, ensure the conductor (green wire) is connected to the ground (earth) conductor of the power outlet. Do not use a two-conductor extension cord or a three-prong/two-prong adaptor. This will defeat the protective feature of the third conductor in the power cord.

Maintenance and calibration procedures sometimes call for operation of the unit with power applied and protective covers removed. Read the procedures and heed warnings to avoid "live" circuit points.

Before operating this instrument:

1. Ensure the instrument is configured to operate on the voltage at the power source. See Installation Section.

2. Ensure the proper fuse is in place for the power source to operate.

3. Ensure all other devices connected to or in proximity to this instrument are properly grounded or connected to the protective third-wire earth ground.

If the instrument:

- fails to operate satisfactorily
- shows visible damage
- has been stored under unfavorable conditions
- has sustained stress

Do not operate until performance is checked by qualified personnel.

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1.0 1260-35 Module Specification

The 1260-35 Signal Multiplexer/Scanner Module is a 1 x 96 multiplexer. It switches two lines per channel and has the capability of being configured as two 1 x 48 multiplexers, four 1 x 24 multiplexers, eight 1 x 12 multiplexers, or sixteen 1 x 6 multiplexers. The configuration is user selectable, but is supplied by the factory in one 1 x 96 two-wire mode. A block diagram of the module is shown in Figure 3-1.

Specifications

Switch Configurations

Four-wire mode, any configuration
Two-wire mode, any configuration

User Connector	IDC Quick Disconnect
Maximum Switchable Voltage (Terminal-Terminal or Terminal Chassis)	250 VDC, 250 VAC RMS
Maximum Switchable Current Per Channel	1 ADC, 1 A RMS
Maximum Switchable Power Per Channel	30 WDC, 62.5 VA AC
Path Resistance	< 0.5 ohm (1 x 6 configuration) < 1.0 ohm (1 x 96 configuration)
Isolation Hi-Lo	> 7.5×10^8 ohms
Capacitance	
Open Channel:	< 600pf (1 x 96 configuration)
Channel-Chassis:	< 60pf (1 x 6 configuration) < 200pf (1 x 96 configuration)
Hi-Lo:	< 50pf (1 x 6 configuration) < 600pf (1 x 96 configuration)
Bandwidth (50 ohm Termination)	> 50 MHz (1 x 6 configuration) > 15 MHz (1 x 48 configuration)
Insertion Loss (50 ohm Termination) 1 x 6 Configuration	< .1 dB to 100KHz < .5 dB to 1MHz < 1 dB to 10MHz
Insertion Loss (50 ohm Termination)	< 3 dB to 8MHz

1 x 96 Configuration

Crosstalk, 50 ohm Termination	< -90 dB to 100KHz < -70 dB to 1 MHz < -23 dB to 10MHz
Switching Time	2ms
Minimum Option 01 Firmware Revision	6.1

2.0 Installation Instructions

2.1 Unpacking and Inspection

Before unpacking the switching module, check the exterior of the shipping carton for any signs of damage. All irregularities should be noted on the shipping bill. Remove the instrument from its carton, preserving the factory packaging as much as possible. Inspect the switching module for any defect or damage. Immediately notify the carrier if any damage is apparent. Have a qualified person check the instrument for safety before use.

2.2 Reshipment Instructions

Use the original packing when returning the switching module to Racal Instruments for calibration or servicing. The original shipping carton and the instrument's plastic foam will provide the necessary support for safe reshipment. If the original packing is unavailable, wrap the switching module in plastic sheeting and use plastic spray foam to surround and protect the instrument. Reship in either the original or a new shipping carton.

2.3 Option 01 Installation

Installation of the Option 01 to the 1260-35 is described in the Installation section of the 1260 Series VXI Switching Cards Manual.

2.4 Module Installation

Installation of the 1260-35 Switching Module into a VXI mainframe, including the setting of DIP switches, is described in the Installation section of the 1260 Series VXI Switching Cards Manual. Configuration of the PCBA and setting DIP switches S1-5 and S1-6 are described in the following sections.

2.4.1 1260-35 ID Byte

Each configuration will respond to different sets of values for <channel number>. The set of values the 1260-35 will respond to is controlled by switch 5 on DIP switch S1 on the PCB. The switch settings that correspond to the two configurations are as follows:

Configuration	S1 Switch 5	S1 Switch 6
Four-wire	Off	Off
Two-wire	On	Off

2.4.2 Configuration Jumpers

2.4.2.1 The 1260-35 Scanner / Multiplexer Module is a user configurable switching module that may be configured in ten different configurations as follows:

1) Sixteen 1 x 6 two-wire scanner/multiplexers

2) Eight 1 x 6 four-wire scanner/multiplexers

3) Eight 1 x 12 two-wire scanner/multiplexers

4) Four 1 x 12 four-wire scanner/multiplexers

5) Four 1 x 24 two-wire scanner/multiplexers

6) Two 1 x 24 four-wire scanner/multiplexers

7) Two 1 x 48 two-wire scanner/multiplexers

8) One 1 x 48 four-wire scanner/multiplexers

9) One 1 x 96 two-wire scanner/multiplexers

10) One 1 x 192 one-wire scanner/multiplexers

2.4.2.2 The 1260-35 is shipped from the factory in the 1 x 192 single wire configuration. Table 2-1 gives the information necessary to configure the module into the other possible configurations.

Table 2-1, 1260-35 Jumper Installation

An X indicates a jumper is to be fitted. An (X) indicates the jumper is optional, depending on whether access to the analog bus is required. A blank indicates no jumper is to be fitted.

16(1x6) 2-wire	8(1x6) 4-wire	8(1x12) 2-wire	4(1x12) 4-wire	4(1x24) 2-wire	2(1x24) 4-wire	2(1x48) 2-wire	1(1x48) 4-wire	1(1x96) 2-wire
W2A,B						(X)	(X)	(X)
W3A,B		X	X	X	X	X	X	X
W4A,B				X	X	X	X	X
W5A,B		X	X	X	X	X	X	X
W6A,B						X	X	X
W7A,B								X
W8A,B		X	X	X	X	X	X	X
W9A,B				X	X	X	X	X
W10A,B		X	X	X	X	X	X	X
W11A,B						1(1x192) 1-WIRE ONLY--->		X
W12A,B		X	X	X	X	X	X	X
W13A,B				X	X	X	X	X
W14A,B		X	X	X	X	X	X	X
W15A,B								X
W16A,B						X	X	X
W17A,B		X	X	X	X	X	X	X
W18A,B				X	X	X	X	X
W19A,B		X	X	X	X	X	X	X
W20A,B						(X)	(X)	(X)

2.4.3 Analog Bus

2.4.3.1 In most of the above configurations, the 1260-35 may be user configured to access an analog bus. The analog bus allows internal expansion for the configuration of larger scanner/multiplexers than the module may achieve alone.

2.4.3.2 To connect the module to the analog bus, install jumpers W2A, W2B, W20A, and W20B.

3.0 1260-35 Module Specific Syntax

The Module Specific Syntax for the 1260-35 is required in the use of the OPEN and CLOSE commands. It will also appear in data output by the Master in response to the PDATAOUT and PSETUP commands.

3.1 Syntax

The Module Specific Syntax for the 1260-35 Signal Multiplexer/Scanner module is as follows:

OPEN <module address>.<channel>[;<module address>.<channel>].....

where <module address> is the address.
<channel is the relay to be closed to connect an input to the output.

Note that Channels remain closed until opened by an OPEN command, RESET command, VXI hard or soft reset or power-off.

NOTE

The <module address> used here is not the VXIbus defined logical address of the 1260 Series Master. It is peculiar to the 1260 Series and describes the switching module in relation to the Master. This address corresponds to the binary value of the switch setting of SW1 on the switching module PCB.

3.1.1 The range of values for <channel> is:

One-wire	00-96
Two-wire	00-95
Four-wire	00-47

3.1.2 The actual mapping of number to connector pins is given in Table 3-1. Figure 3-1 shows the physical location of the various connector pins.

3.1.3 The Module Specific Syntax for the CLOSE command is the same as for the OPEN command.

3.1.4 The PSETUP command causes the specified module setup to be transmitted to the VXI Controller. The syntax used is:

PSETUP <module address>[;<module address>][;<module address>].....
where <module address> is the address.

3.1.5 The responses to the PSETUP command for the 1260-35 Multiplexer/Scanner is as follows:

1260-35: Two-wire

<module address>. 1260-35B, Two-wire Scanner/Multiplexer Module
<module address>. BBM
<module address>.END

1260-35: Four-wire

<module address>. 1260-35A, Four-wire Scanner/Multiplexer Module
<module address>. BBM
<module address>.END

The response to the PSETUP command consists of a header on the first line. The header describes the model number followed by an A or B designating four or two-wire, respectively. The next line designates the setup mode for scanning which, by default, is Break-Before-Make (BBM). The last line containing the "END" characters denotes no more information to report.

3.1.6 The PDATAOUT command causes the specified module to transmit the CLOSED state of the relays fitted to the switching module to the 1260 Controller. The syntax used is:

PDATAOUT <module address>[.<module address>][;<module address>].....

3.1.7 The responses to the PDATAOUT command is as follows:

1260-35: Two-wire

<module address>. 1260-35 Two-wire Scanner/Multiplexer Module
<module address>. <channel>[,<channel>][,<channel>].....
<module address>.END

<module address>. 1260-35A Four-wire Scanner/Multiplexer Module
<module address>. <channel>[,<channel>][,<channel>].....
<module address>.END

The response to the PDATAOUT command consists of a header on the first line as with the PSETUP response. The next line details the channels currently closed on the module, and is blank when no channels are closed. Again, the last line is denoted by the "END" string of characters.

Table 3-1, 1260-35 Channel Closure

Channel interconnect for 1, 2 and 4-wire modes.

1-wire mode:

<channel>	<channel> output	<channel> input
(channel 96 open)		
0 thru 95	always J202- B2	(see 2-wire mode channels 0-95 input pins b-side of channel)
(channel 96 closed)		
0 thru 95	always J202- B2	(see 2-wire mode channels 0-95 input pins a-side of channel)

Thus, a one 1 x 191 1-wire mode is acheived.

2-wire mode:

<channel>	<channel> output pins a / b (HI) (LO)	to	<channel> input pins a / b (HI) (LO)
0	J200- A30 / B30		J200- A29 / B29
1	J200- A30 / B30		J200- A28 / B28
2	J200- A30 / B30		J200- A27 / B27
3	J200- A30 / B30		J200- A26 / B26
4	J200- A30 / B30		J200- A25 / B25
5	J200- A30 / B30		J200- A24 / B24
6	J200- A23 / B23		J200- A22 / B22
7	J200- A23 / B23		J200- A21 / B21
8	J200- A23 / B23		J200- A20 / B20
9	J200- A23 / B23		J200- A19 / B19
10	J200- A23 / B23		J200- A18 / B18
11	J200- A23 / B23		J200- A17 / B17
12	J200- A16 / B16		J200- A15 / B15
13	J200- A16 / B16		J200- A14 / B14
14	J200- A16 / B16		J200- A13 / B13
15	J200- A16 / B16		J200- A12 / B12
16	J200- A16 / B16		J200- A11 / B11
17	J200- A16 / B16		J200- A10 / B10
18	J200- A9 / B9		J200- A8 / B8
19	J200- A9 / B9		J200- A7 / B7
20	J200- A9 / B9		J200- A6 / B6
21	J200- A9 / B9		J200- A5 / B5
22	J200- A9 / B9		J200- A4 / B4
23	J200- A9 / B9		J200- A3 / B3
24	J202- A30 / B30		J202- A29 / B29
25	J202- A30 / B30		J202- A28 / B28
26	J202- A30 / B30		J202- A27 / B27
27	J202- A30 / B30		J202- A26 / B26
28	J202- A30 / B30		J202- A25 / B25
29	J202- A30 / B30		J202- A24 / B24

Table 3-1, 1260-35 Channel Closure (continued)

30	J202- A23 / B23	J202- A22 / B22
31	J202- A23 / B23	J202- A21 / B21
32	J202- A23 / B23	J202- A20 / B20
33	J202- A23 / B23	J202- A19 / B19
34	J202- A23 / B23	J202- A18 / B18
35	J202- A23 / B23	J202- A17 / B17
36	J202- A16 / B16	J202- A15 / B15
37	J202- A16 / B16	J202- A14 / B14
38	J202- A16 / B16	J202- A13 / B13
39	J202- A16 / B16	J202- A12 / B12
40	J202- A16 / B16	J202- A11 / B11
41	J202- A16 / B16	J202- A10 / B10
42	J202- A9 / B9	J202- A8 / B8
43	J202- A9 / B9	J202- A7 / B7
44	J202- A9 / B9	J202- A6 / B6
45	J202- A9 / B9	J202- A5 / B5
46	J202- A9 / B9	J202- A4 / B4
47	J202- A9 / B9	J202- A3 / B3
48	J201- A30 / B30	J201- A29 / B29
49	J201- A30 / B30	J201- A28 / B28
50	J201- A30 / B30	J201- A27 / B27
51	J201- A30 / B30	J201- A26 / B26
52	J201- A30 / B30	J201- A25 / B25
53	J201- A30 / B30	J201- A24 / B24
54	J201- A23 / B23	J201- A22 / B22
55	J201- A23 / B23	J201- A21 / B21
56	J201- A23 / B23	J201- A20 / B20
57	J201- A23 / B23	J201- A19 / B19
58	J201- A23 / B23	J201- A18 / B18
59	J201- A23 / B23	J201- A17 / B17
60	J201- A16 / B16	J201- A15 / B15
61	J201- A16 / B16	J201- A14 / B14
62	J201- A16 / B16	J201- A13 / B13
63	J201- A16 / B16	J201- A12 / B12
64	J201- A16 / B16	J201- A11 / B11
65	J201- A16 / B16	J201- A10 / B10
66	J201- A9 / B9	J201- A8 / B8
67	J201- A9 / B9	J201- A7 / B7
68	J201- A9 / B9	J201- A6 / B6
69	J201- A9 / B9	J201- A5 / B5
70	J201- A9 / B9	J201- A4 / B4
71	J201- A9 / B9	J201- A3 / B3
72	J203- A30 / B30	J203- A29 / B29
73	J203- A30 / B30	J203- A28 / B28
74	J203- A30 / B30	J203- A27 / B27
75	J203- A30 / B30	J203- A26 / B26
76	J203- A30 / B30	J203- A25 / B25
77	J203- A30 / B30	J203- A24 / B24

Table 3-1, 1260-35 Channel Closure (continued)

78	J203- A23 / B23	J203- A22 / B22
79	J203- A23 / B23	J203- A21 / B21
80	J203- A23 / B23	J203- A20 / B20
81	J203- A23 / B23	J203- A19 / B19
82	J203- A23 / B23	J203- A18 / B18
83	J203- A23 / B23	J203- A17 / B17
84	J203- A16 / B16	J203- A15 / B15
85	J203- A16 / B16	J203- A14 / B14
86	J203- A16 / B16	J203- A13 / B13
87	J203- A16 / B16	J203- A12 / B12
88	J203- A16 / B16	J203- A11 / B11
89	J203- A16 / B16	J203- A10 / B10
90	J203- A9 / B9	J203- A8 / B8
91	J203- A9 / B9	J203- A7 / B7
92	J203- A9 / B9	J203- A6 / B6
93	J203- A9 / B9	J203- A5 / B5
94	J203- A9 / B9	J203- A4 / B4
95	J203- A9 / B9	J203- A3 / B3

96 (not used in 2-wire mode)

4-wire mode:

<channel>	refer to the following 2-wire channels for the input/output pins	<channel>	refer to the following 2-wire channels for the input/output pins
0	0,48	24	24,72
1	1,49	25	25,73
2	2,50	26	26,74
3	3,51	27	27,75
4	4,52	28	28,76
5	5,53	29	29,77
6	6,54	30	30,78
7	7,55	31	31,79
8	8,56	32	32,80
9	9,57	33	33,81
10	10,58	34	34,82
11	11,59	35	35,83
12	12,60	36	36,84
13	13,61	37	37,85
14	14,62	38	38,86
15	15,63	39	39,87
16	16,64	40	40,88
17	17,65	41	41,89
18	18,66	42	42,90
19	19,67	43	43,91
20	20,68	44	44,92
21	21,69	45	45,93
22	22,70	46	46,94
23	23,71	47	47,95

96 (not used in 4-wire mode)

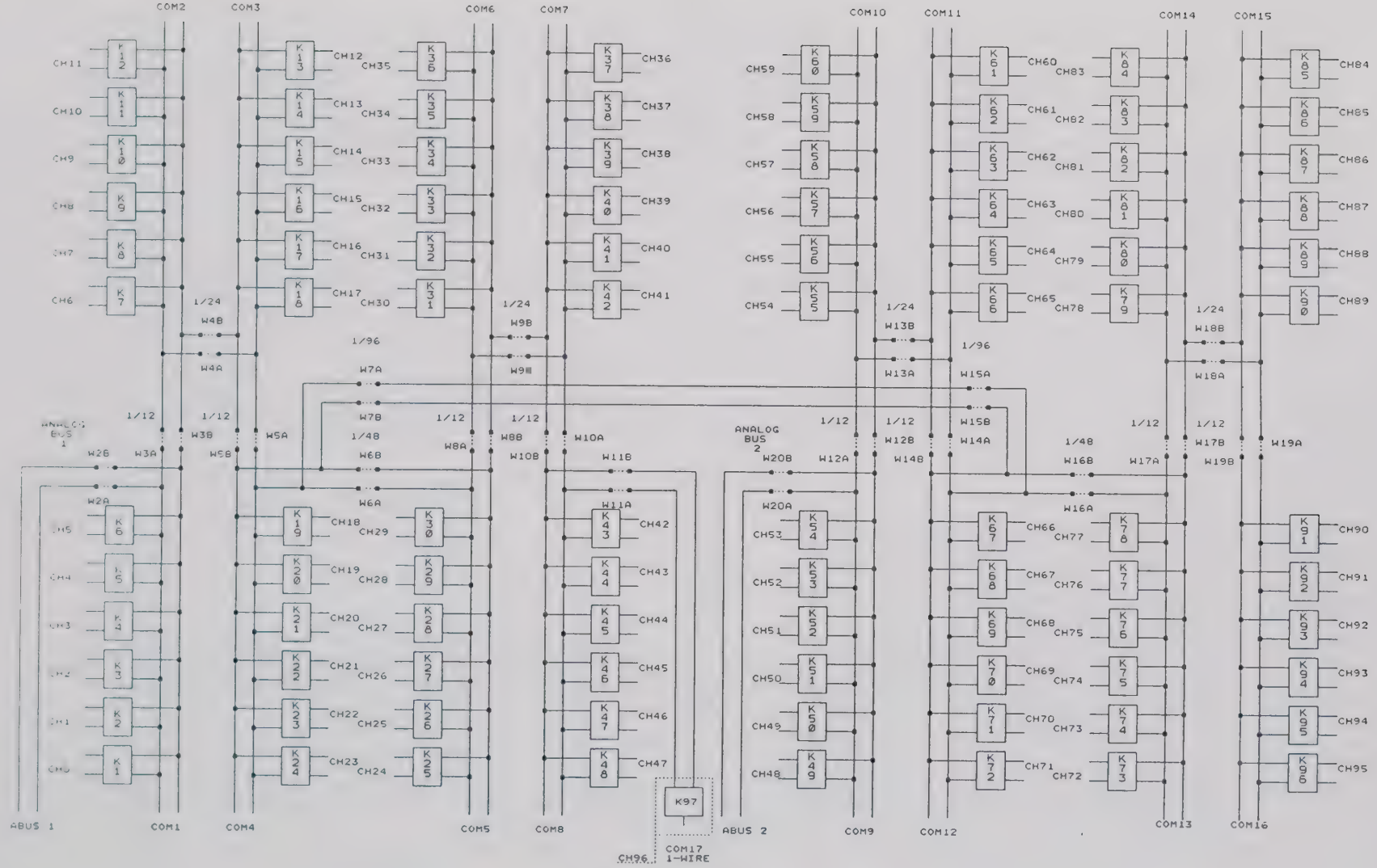

Figure 3-1, 1260-35 Block Diagram

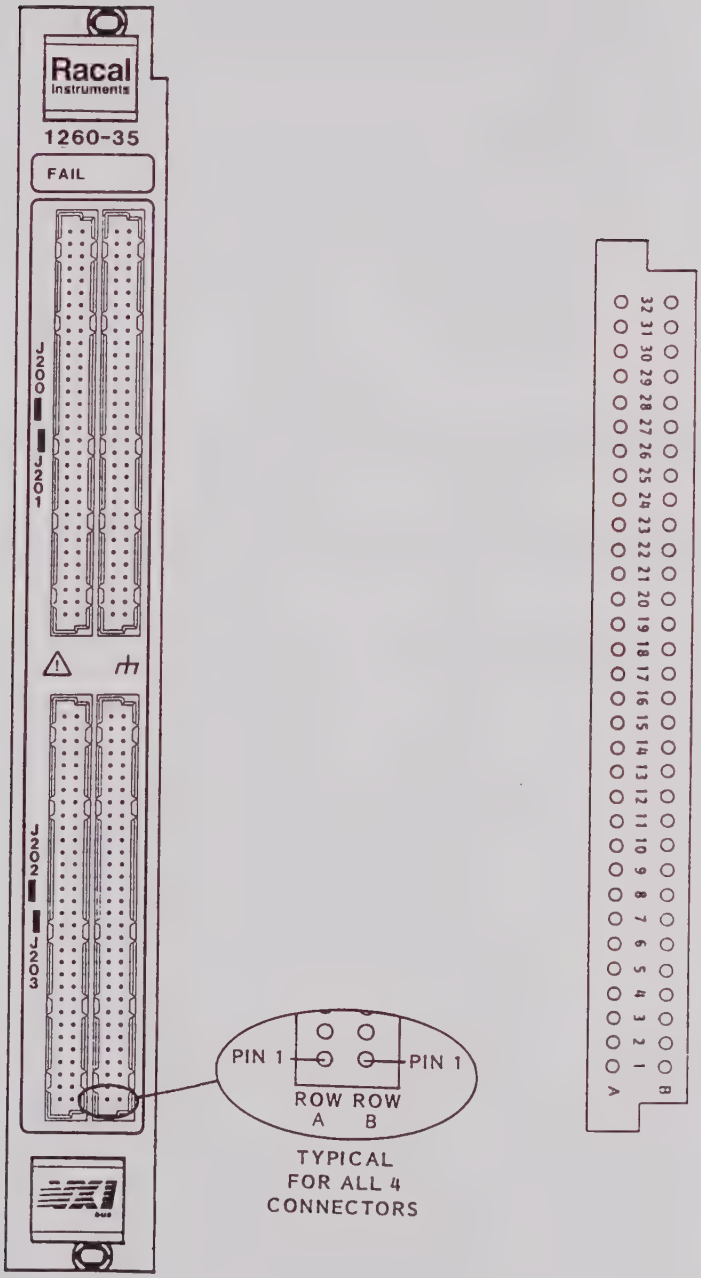

Figure 3-2, 1260-35 Pin Connections, Front View

4.0 Drawings

404944 Final Assy, 1260-35 (IDC Connectors) 1-15
404944-001 Final Assy, 1260-35A (Crimp Connectors) 1-16

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431989 Schematic, 1260-35 1-19

401992 PCB Assy, 1260-35D 1-36
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5.0 Parts List

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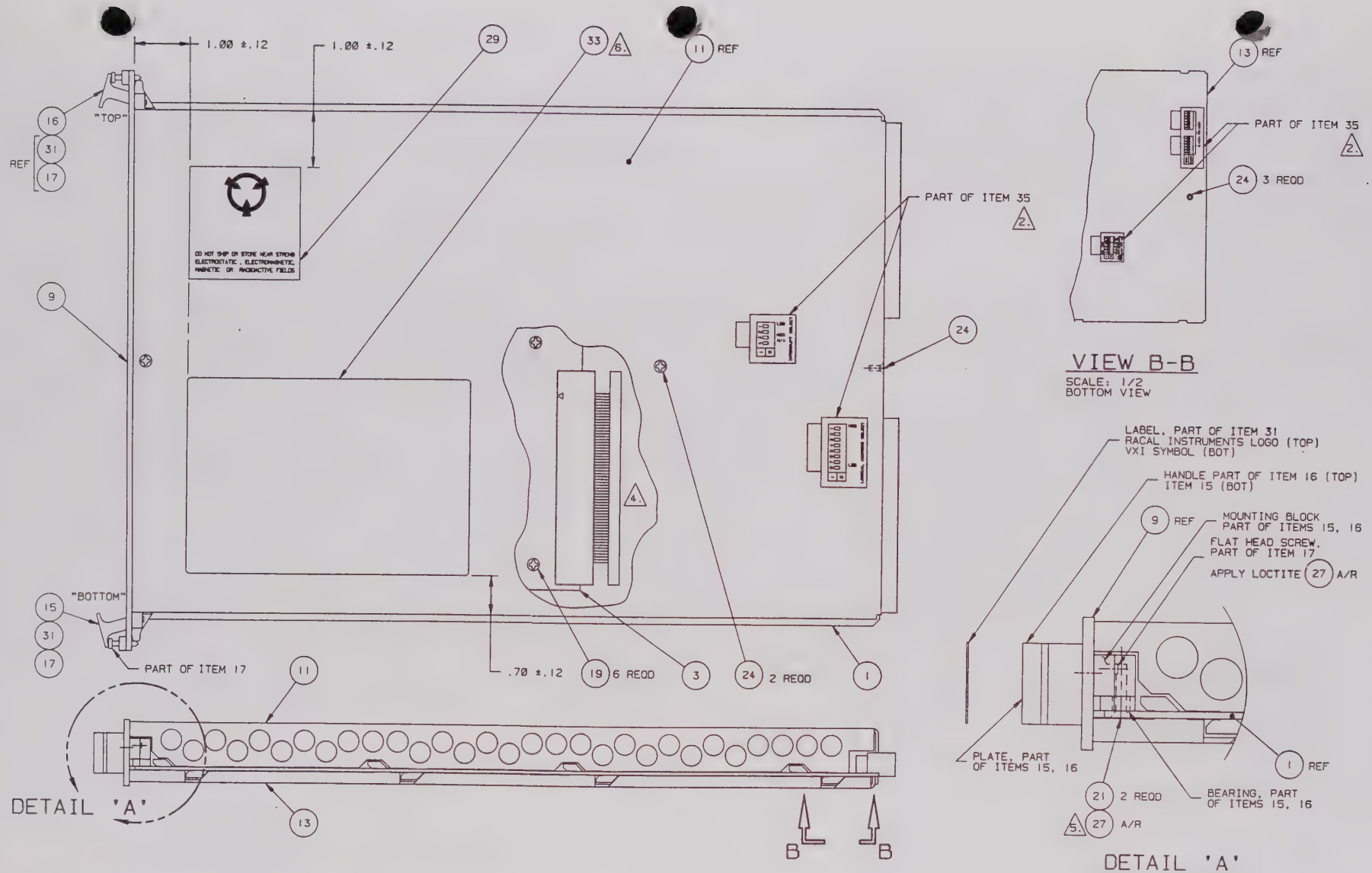

NOTES:

1. DISCARD UNUSED HARDWARE IN ITEM 17.
2. AFFIX LABELS AS SHOWN, ALIGN LABEL TEXT WITH APPROPRIATE SWITCH ACTUATORS.
3. INCLUDE SHIPPING KIT, ITEM 5 IN BOX WITH ASSY.
4. CONNECT CABLE FROM ITEM 1 TO ITEM 3 AS SHOWN.
5. APPLY LOCTITE SPARINGLY. DO NOT ALLOW CONTACT WITH EJECTOR HANDLES ITEMS 15 (BOT) AND 16(TOP).
6. TYPE PERTINENT INFORMATION ON LABEL ITEM 33 PRIOR TO AFFIXING LABEL TO PANEL.

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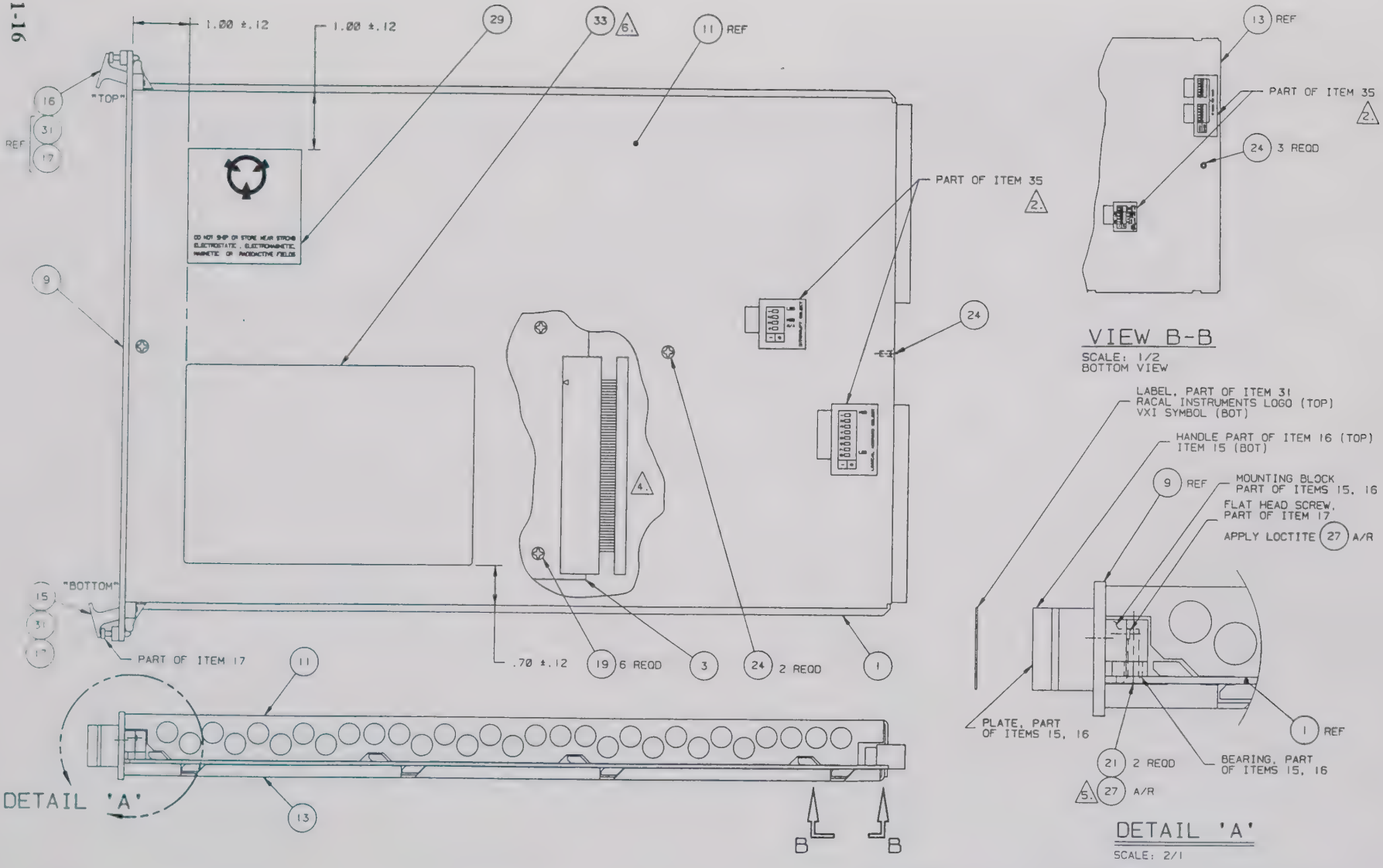
D	21793	404944	F

SCALE 1/1 | CALC. VT | ACT. VT | SHT. 1 OF 2



NOTES:

1. DISCARD UNUSED HARDWARE IN ITEM 17.
2. AFFIX LABELS AS SHOWN, ALIGN LABEL TEXT WITH APPROPRIATE SWITCH ACTUATORS.
3. INCLUDE SHIPPING KIT, ITEM 5 IN BOX WITH ASSY.
4. CONNECT CABLE FROM ITEM 1 TO ITEM 3 AS SHOWN.
5. APPLY LOCTITE SPARINGLY. DO NOT ALLOW CONTACT WITH EJECTOR HANDLES ITEMS 15 (BOT) AND 16(TOP).
6. TYPE PERTINENT INFORMATION ON LABEL ITEM 33 PRIOR TO AFFIXING LABEL TO PANEL.

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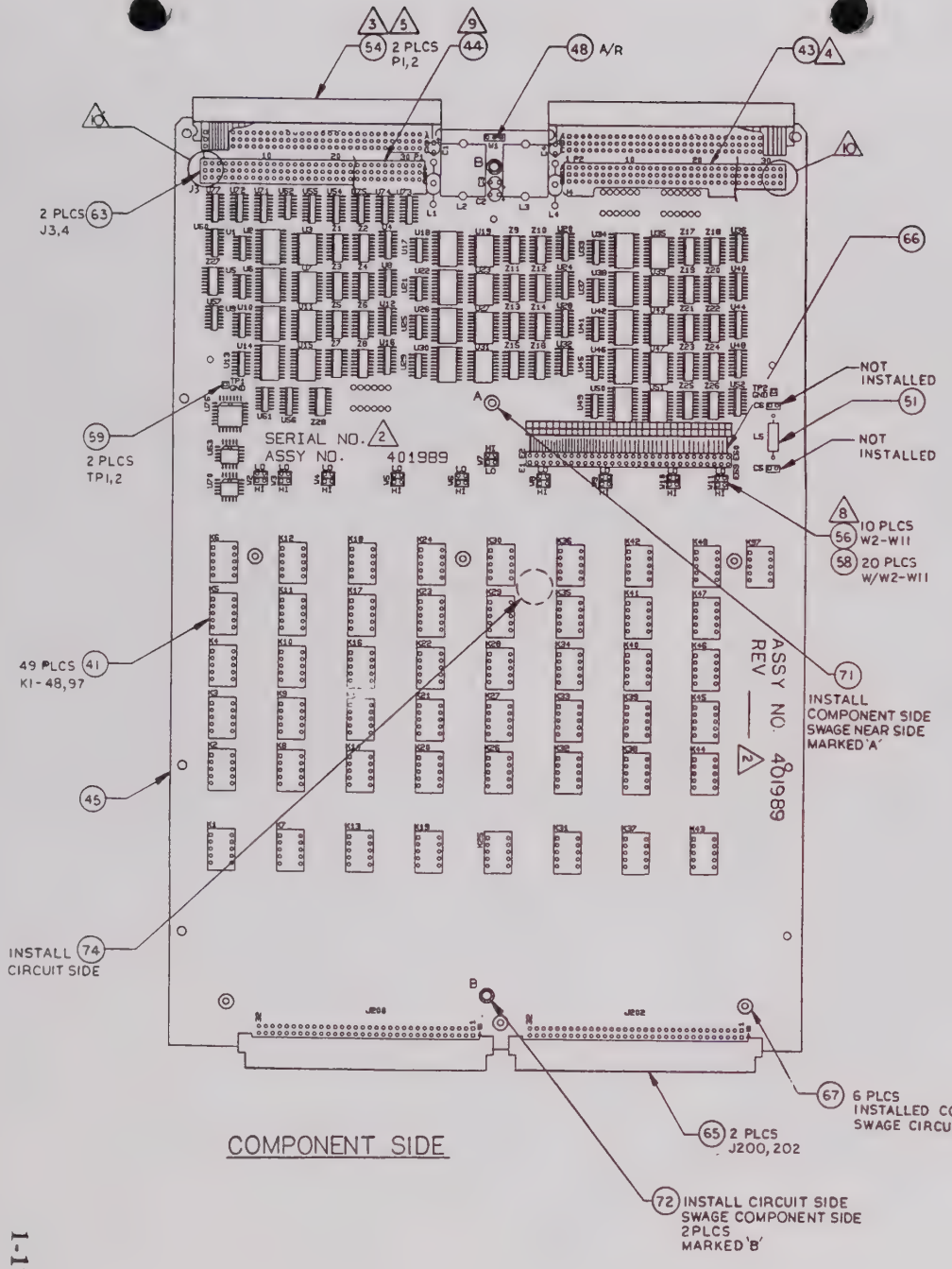
Racal Instruments, Inc.
4 Goodyear St., Irvine, CA. 92718-2002

TITLE
FINAL ASSY., 1260-35A

SIZE	CAGE CODE	DOCUMENT NUMBER	REV.
D	21793	404944-001	D

SCALE 1/1 | CALC. WT | ACT. WT | SHT. 1 OF 2



10 SOLDER TAILS ON CIRCUIT SIDE OF PCB FOR J3 AND J4 (ITEM 63) 3 ROWS (9 PINS) NEAREST EDGE OF PC BOARD TO BE TRIMMED TO A MAXIMUM HEIGHT OF .045.

9 INSTALL (ITEM 44) PCB INTO (ITEM 63) J3.

8 INSTALL PLUG-JUMPER (ITEM 58) ONTO W2-W11 (ITEM 56) AS SHOWN.

7 SET SW2 & SW3 (ITEM 62) TO ON POSITION. DO NOT WAVE SOLDER.

6 SET SW1 (ITEM 62) TO LOGICAL ADDRESS 1 PER TABLE 1. ALSO SET SW1 POSITION 5 TO ON. DO NOT WAVE SOLDER.

5 P1 AND P2 MUST BE INSTALLED FLUSH AT RIGHT ANGLE TO PCB.

4 INSTALL (ITEM 43) PCB INTO (ITEM 63) J4.

3 SOLDER TAILS ON CIRCUIT SIDE OF PCB FOR P1,P2 (ITEM 54) TO BE TRIMMED TO A MAX. HEIGHT OF .045.

2 INK STAMP SERIAL NUMBER, ASSY NUMBER & CURRENT REVISION ON COMPONENT SIDE APPROX. WHERE SHOWN.

1. REFERENCE SCHEMATIC 431989.

NOTES: UNLESS OTHERWISE SPECIFIED

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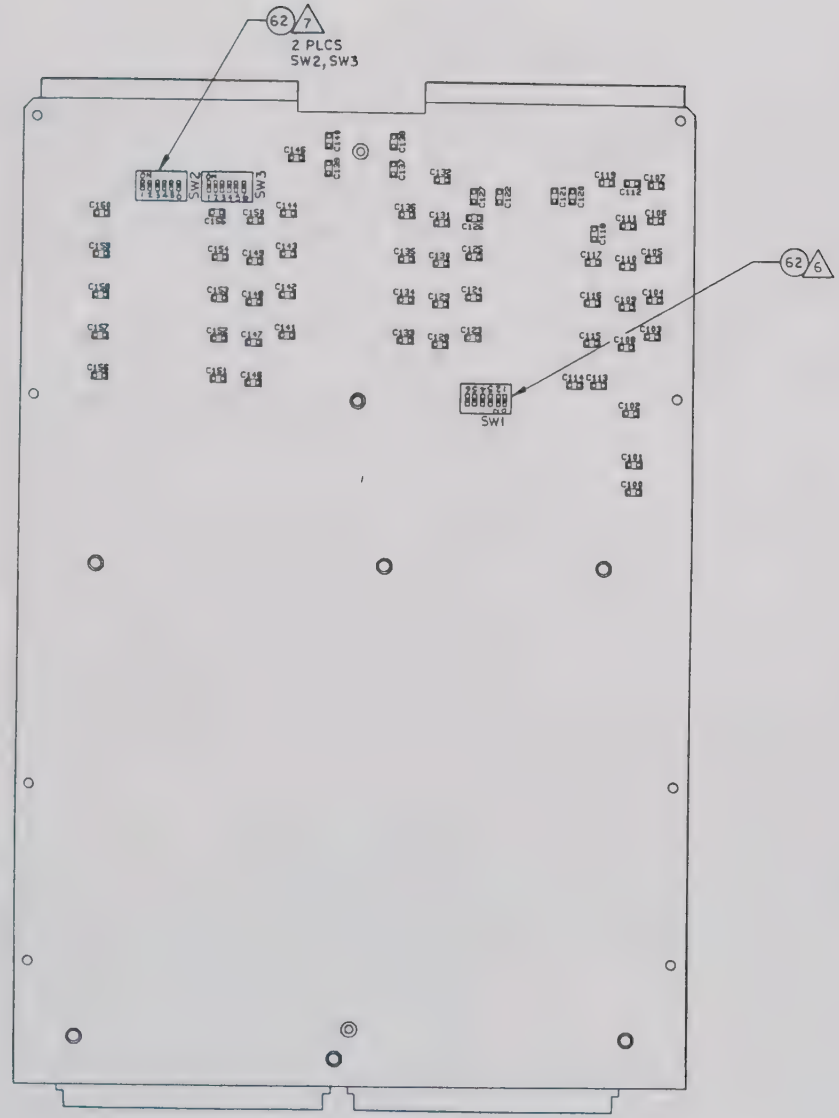
Racal Instruments, Inc.
4 Goodyear St., Irvine, CA. 92718-2002

DOCUMENT TITLE			
PCB ASSY, 1260-35			
SIZE	CODE IDENT NO.	DOCUMENT NO.	REV
D	21793	401989	D
SCALE —		SHEET 1 OF 5	

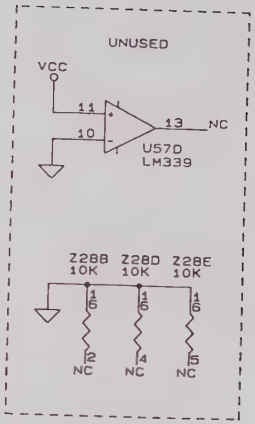


CIRCUIT SIDE

SIZE	CODE IDENT NO	DOCUMENT NO.	REV
D	21793	401989	D
SCALE —		SHEET 2 OF 5	

REF. DES.	IC TYPE	+5V PIN NO.	GND PIN NO.
IC POWER AND GROUND CONNECTIONS			
U76	231154 (22V10H)	28	14
U75	26LS31	16	8
U73, 74	26LS32	16	8
U71, 72, 77	74HCT253	16	8
U70	231152-001 (16L8Q)	20	10
U57	LM339	3	12
U56	74HCT85	16	8
U54, 55	74LS138	16	8
U53	231153 (16R4)	20	10
U4, 8, 12, 16, 20, 24, 28 U32, 36, 40, 44, 48, 52, 60	74HCT166	16	8
U3, 7, 11, 15, 19, 23, U27, 31, 35, 39, 43, 47, 51	2803	NC	9
U2, 6, 10, 14, 18, 22, U26, 30, 34, 38, 42, 46, 50	74HCT273	20	10
U1, 5, 9, 13, 17, 21, 25, 29 U33, 37, 41, 45, 49, 61, 62	74HCT164	14	7

HIGHEST REF. DES.
Z28
W11
U77
TP2
SW3
P2
L5
K97
J202
E60
C160



4. C5 AND C6 ARE NOT INSTALLED.

3. RELAYS K1 THRU K48,K97 ARE RACAL P/N 310197. ALL RELAYS SHOWN IN DE-ENERGIZED POSITION.

2. RESISTOR NETWORKS ARE IN OHMS.

1. CAPACITOR VALUES ARE IN MICROFARADS, 50V, +/-20% UNLESS OTHERWISE SPECIFIED.

NOTES: UNLESS OTHERWISE SPECIFIED

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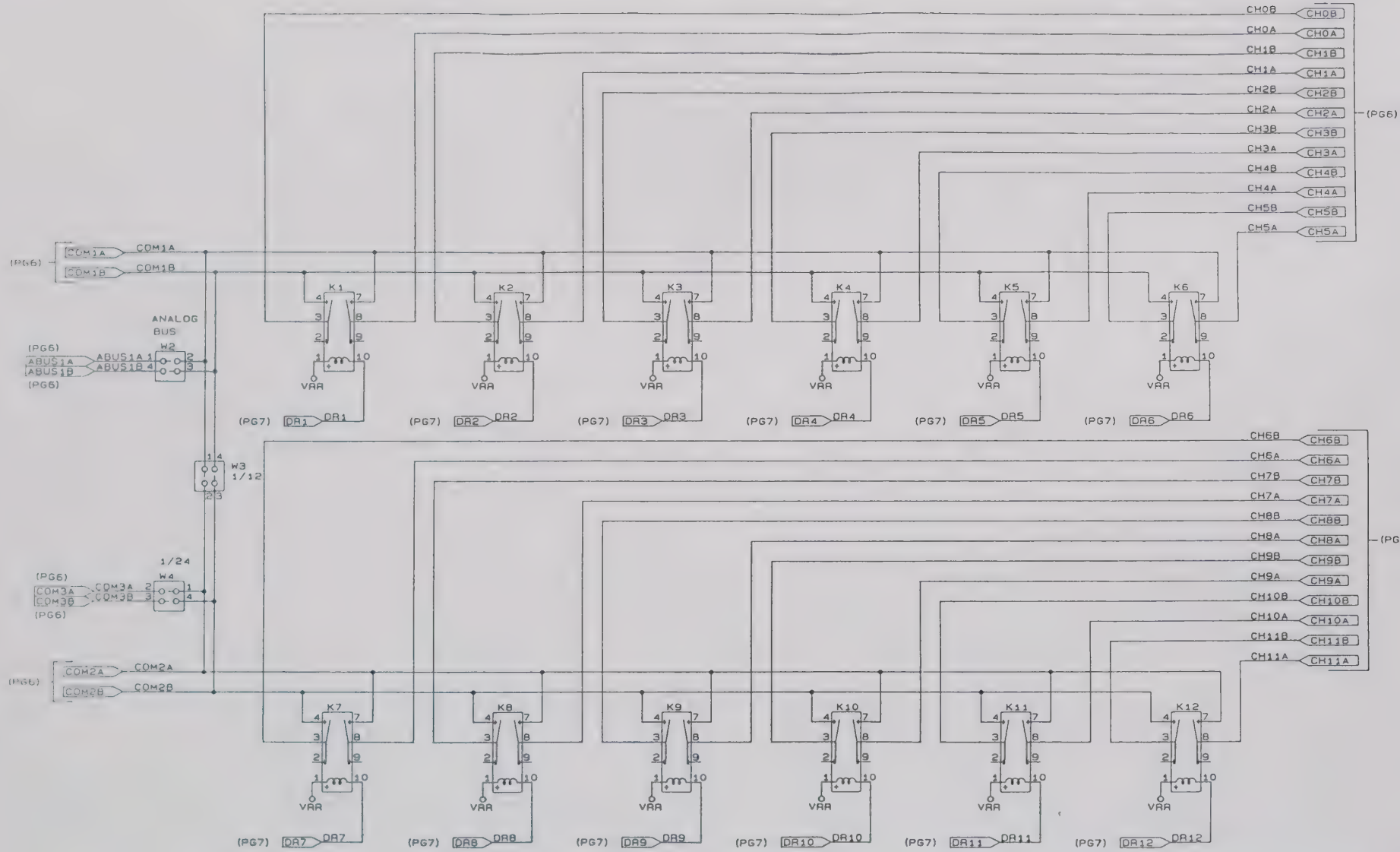
Racal Instruments, Inc.
4 Goodyear St., Irvine, CA. 92718-2002

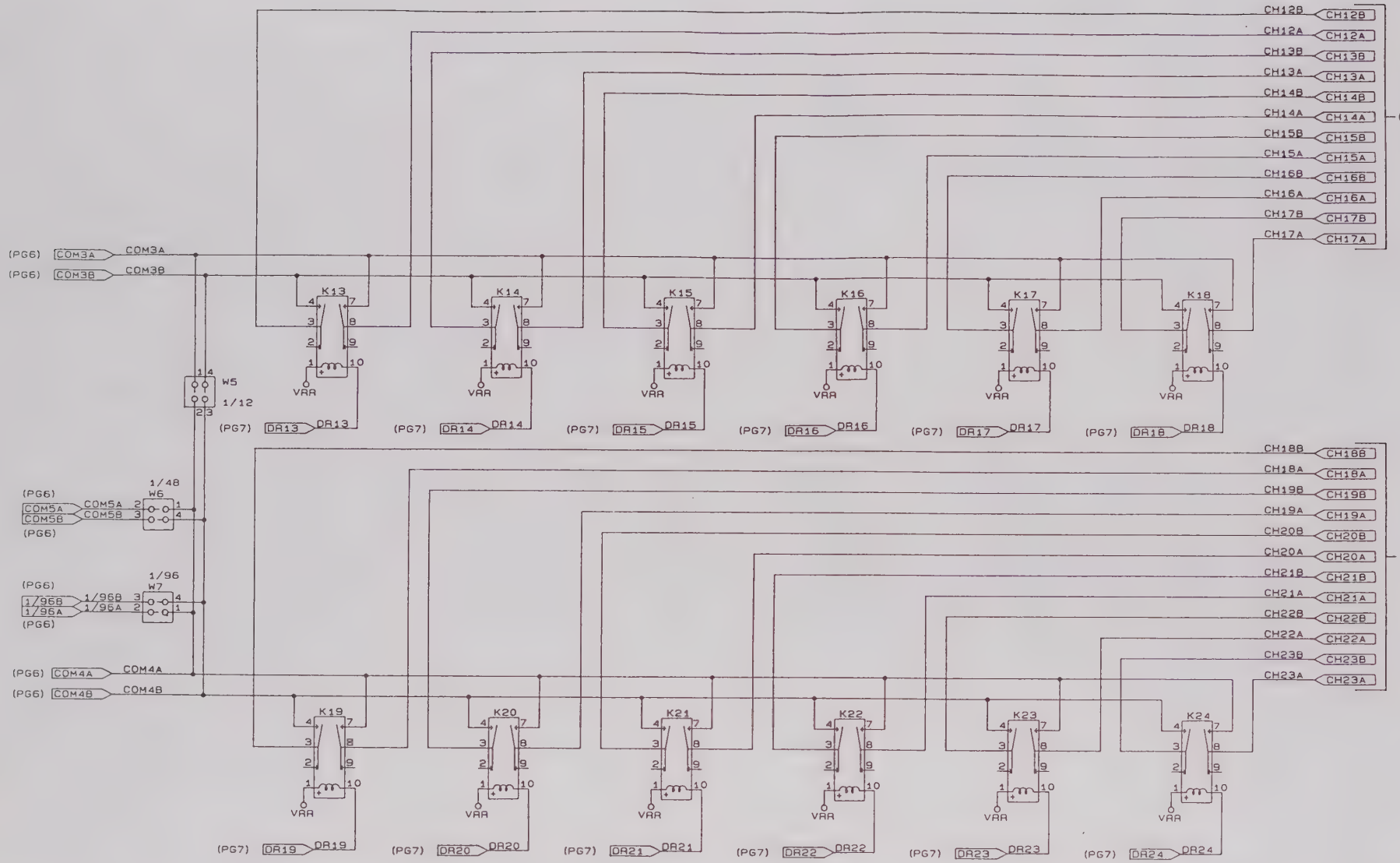
DOCUMENT TITLE: SCHEM, 1260-35

SIZE	CODE IDENT NO	DOCUMENT NO	REV
B	21793	431989	A

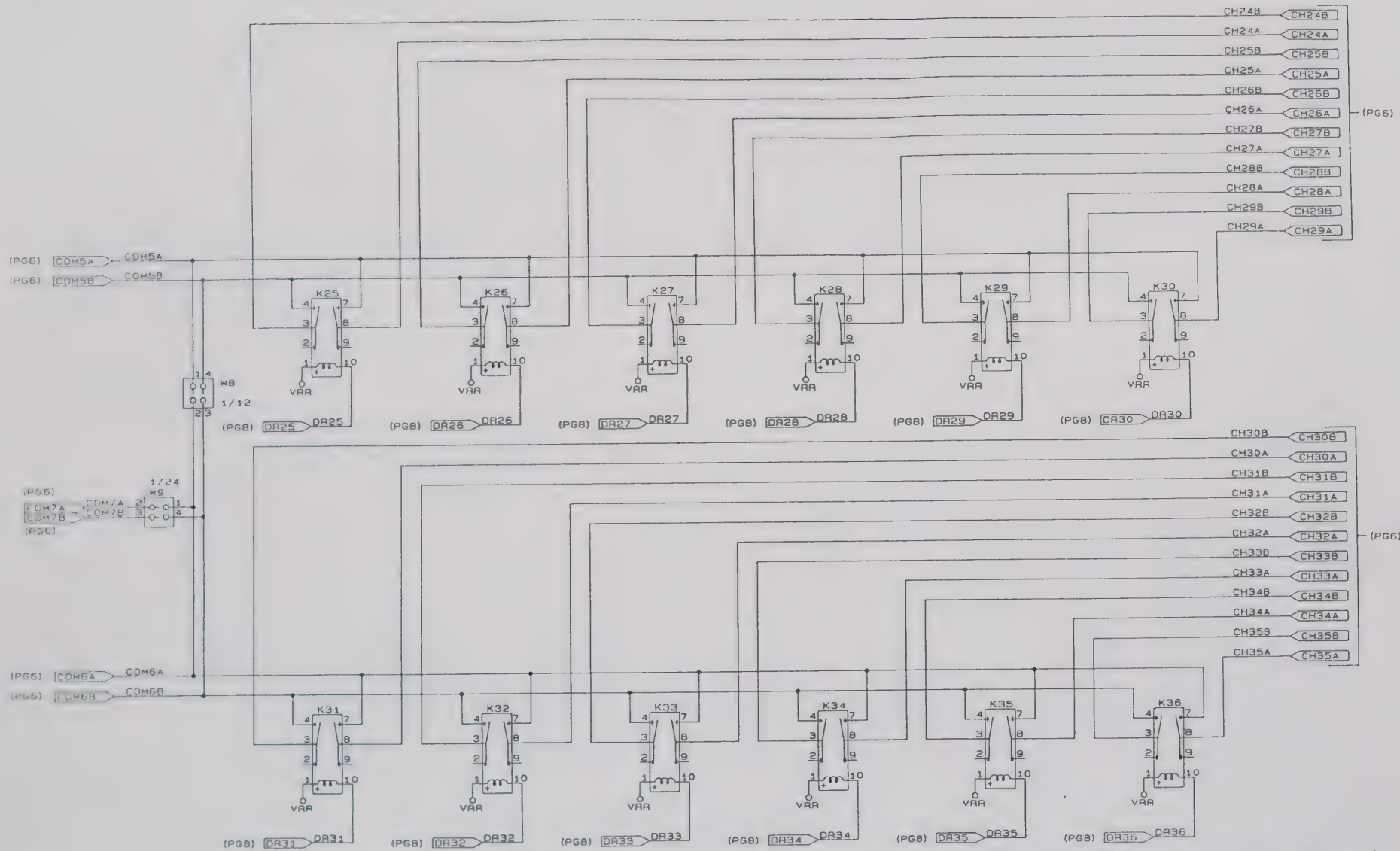
SCALE ——— SHEET 1 OF 17



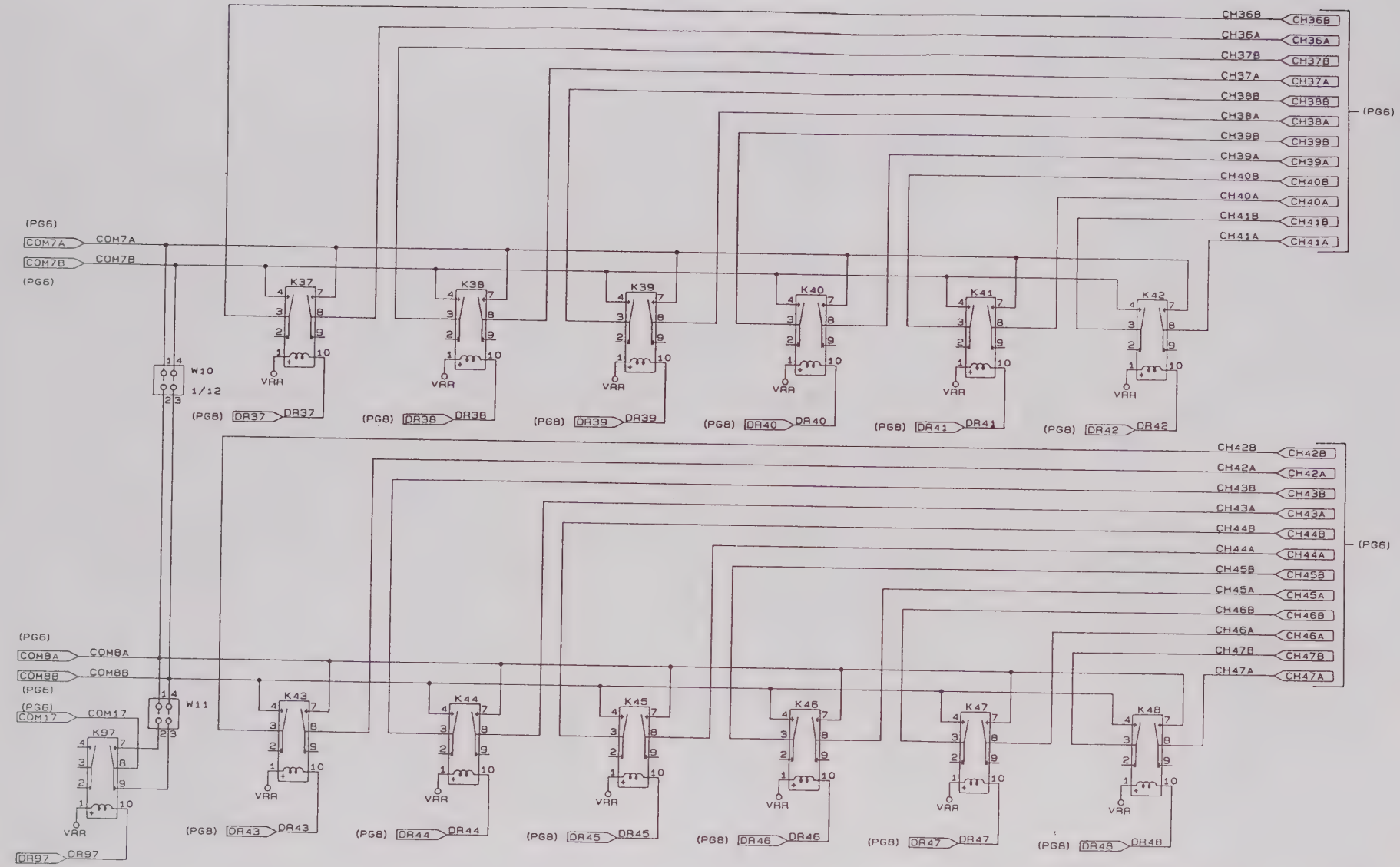
SIZE	CODE IDENT NO	DOCUMENT NO.	REV
B	21793	431989	A
SCALE		SHEET 2 OF 17	



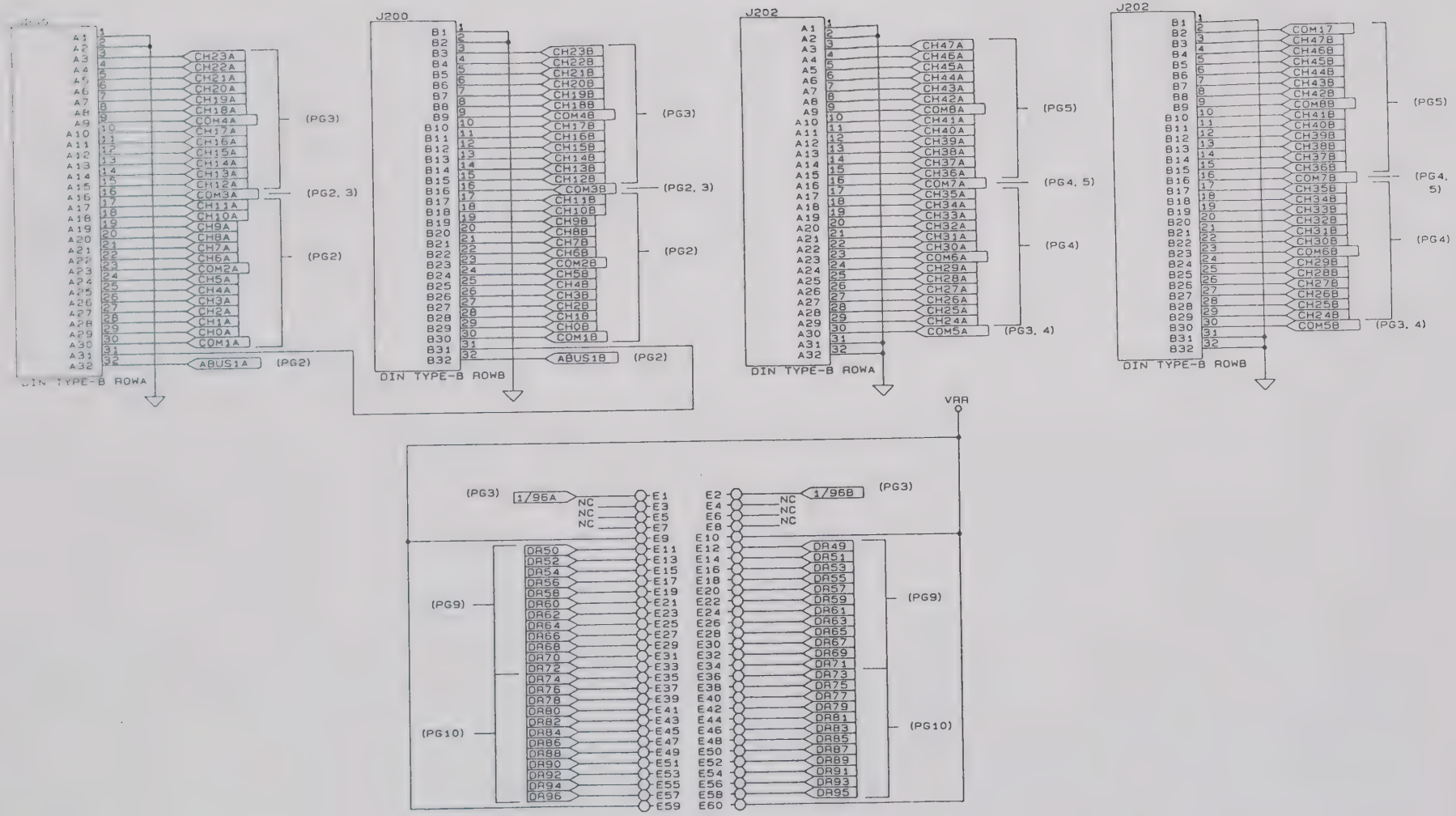
SIZE	CODE IDENT NO.	DOCUMENT NO.	REV
B	21793	431989	A
SCALE		SHEET 3 OF 17	



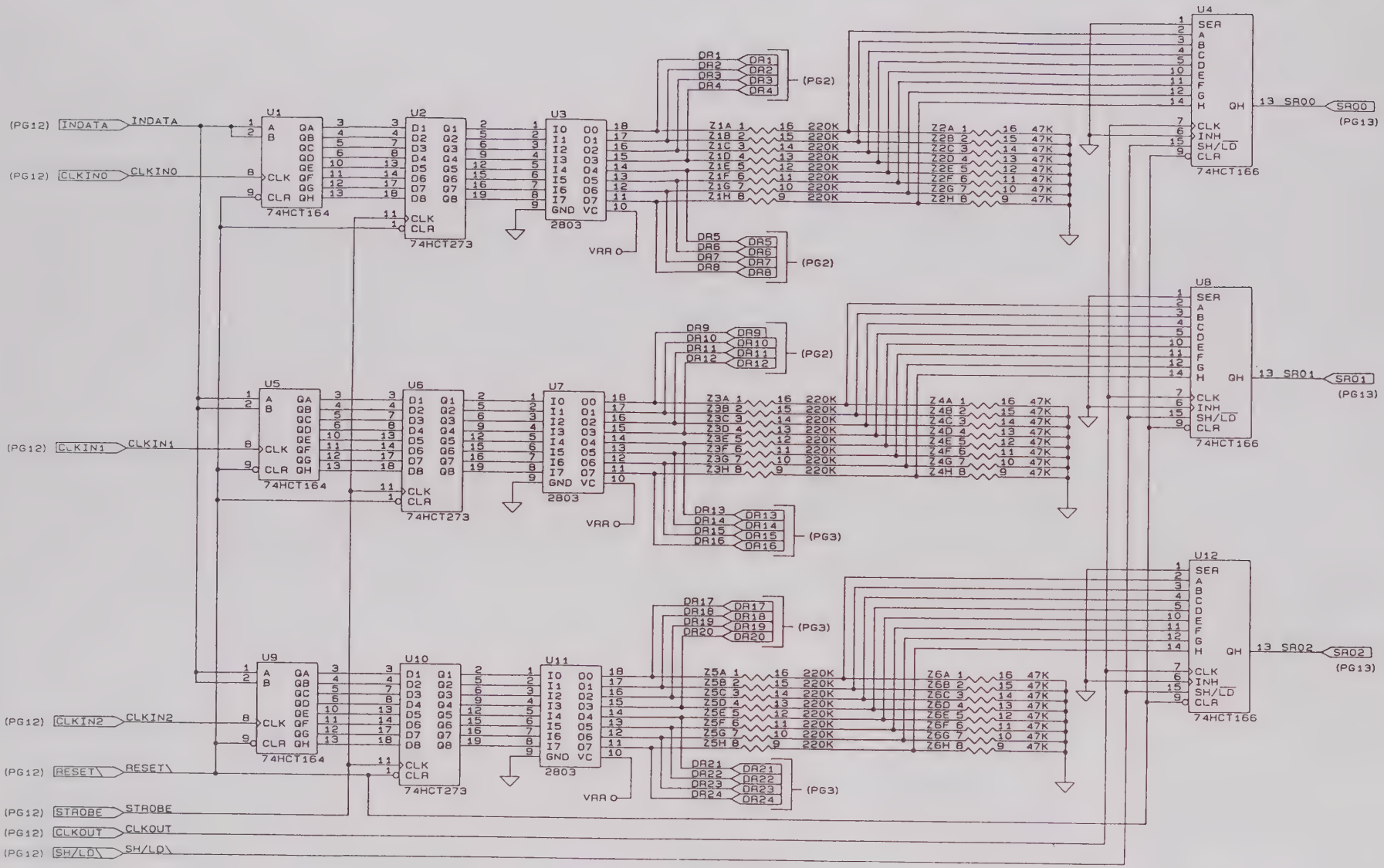
SIZE	CODE IDENT NO.	DOCUMENT NO.	REV
B	21793	431989	A
SCALE		SHEET 4	OF 17



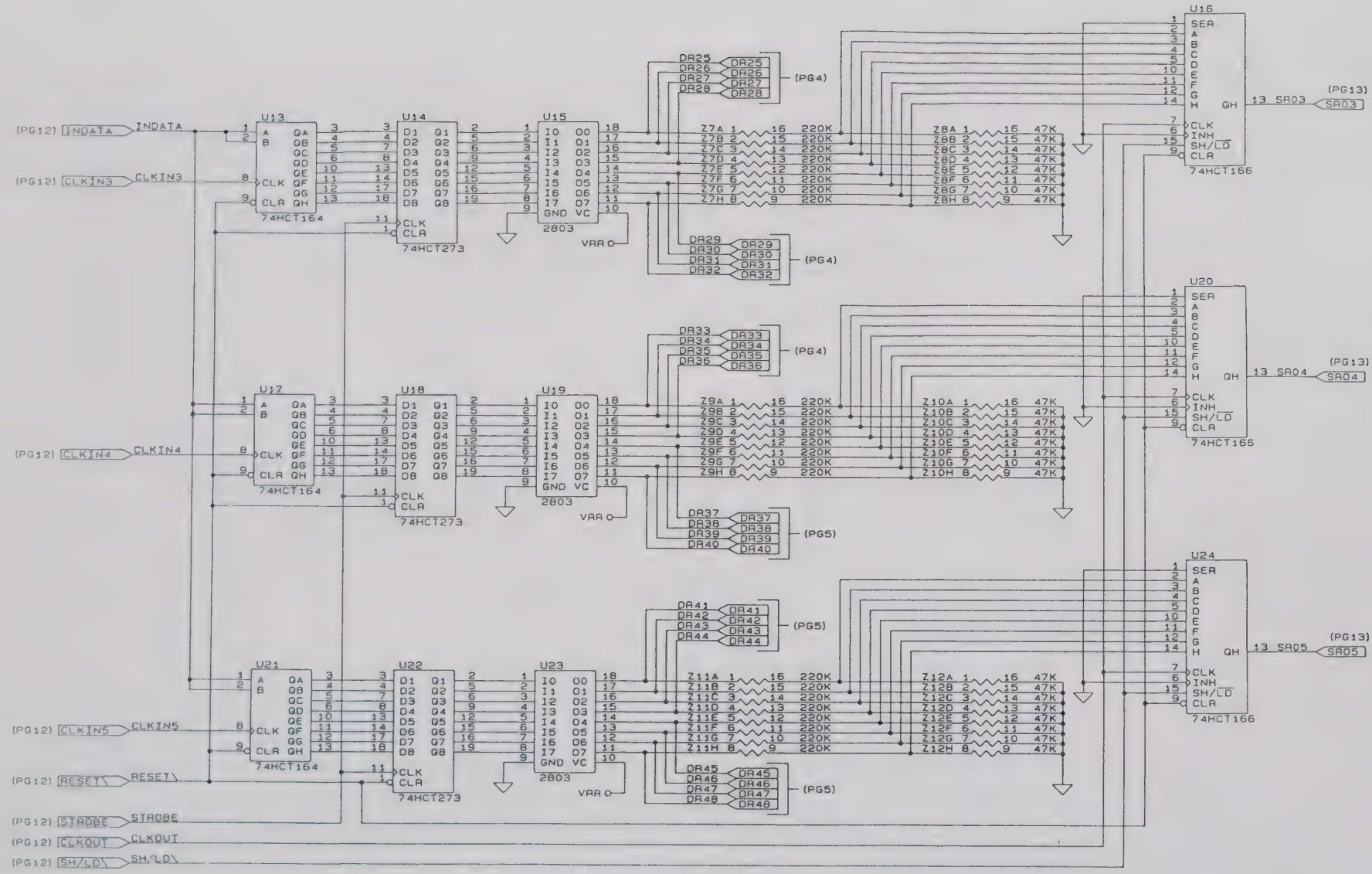
SIZE	CODE IDENT NO.	DOCUMENT NO.	REV
B	21793	431989	A
SCALE		SHEET 5 OF 17	



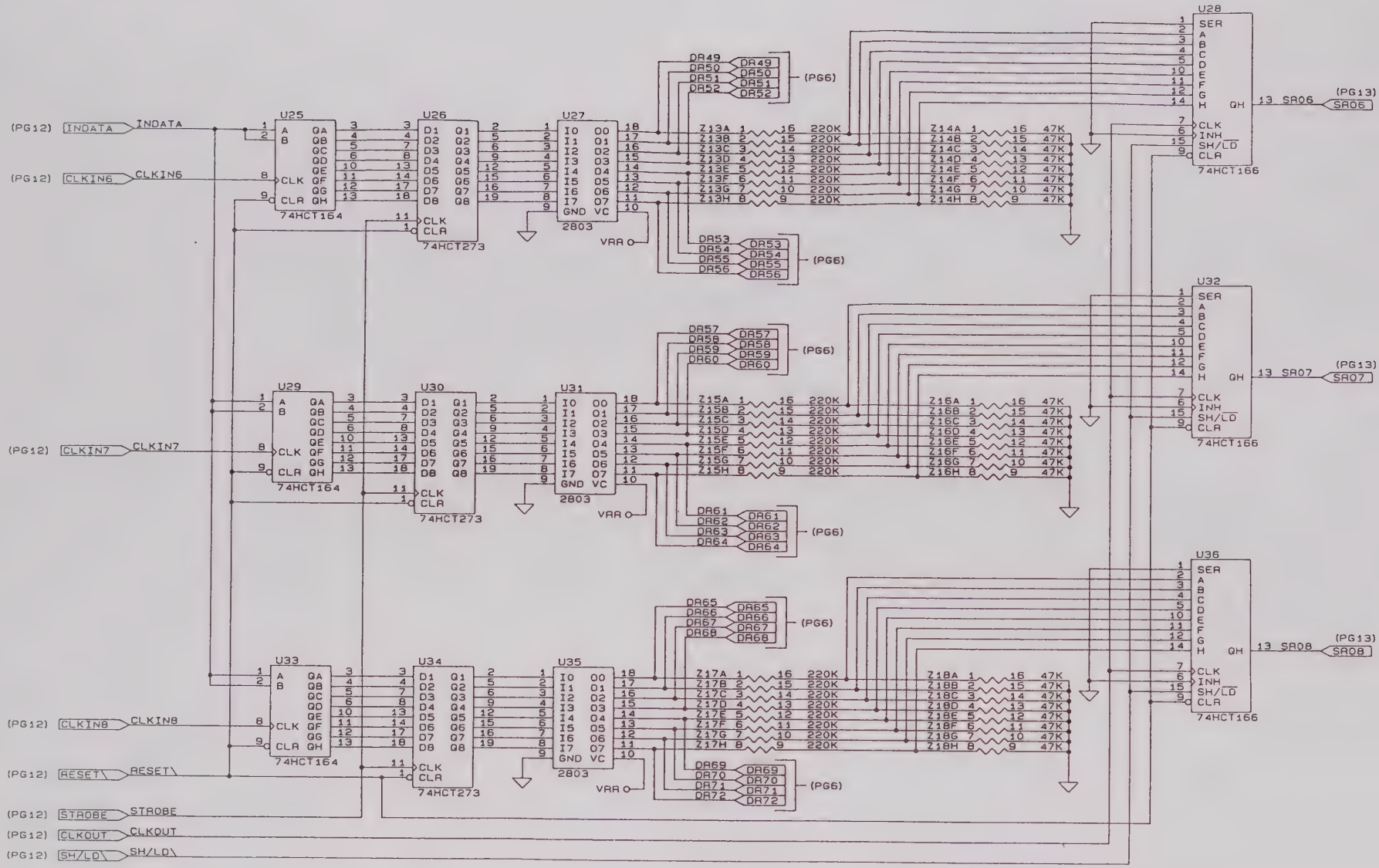
SIZE	CODE IDENT NO.	DOCUMENT NO.	REV
B	21793	431989	A
SCALE		SHEET 6 OF 17	



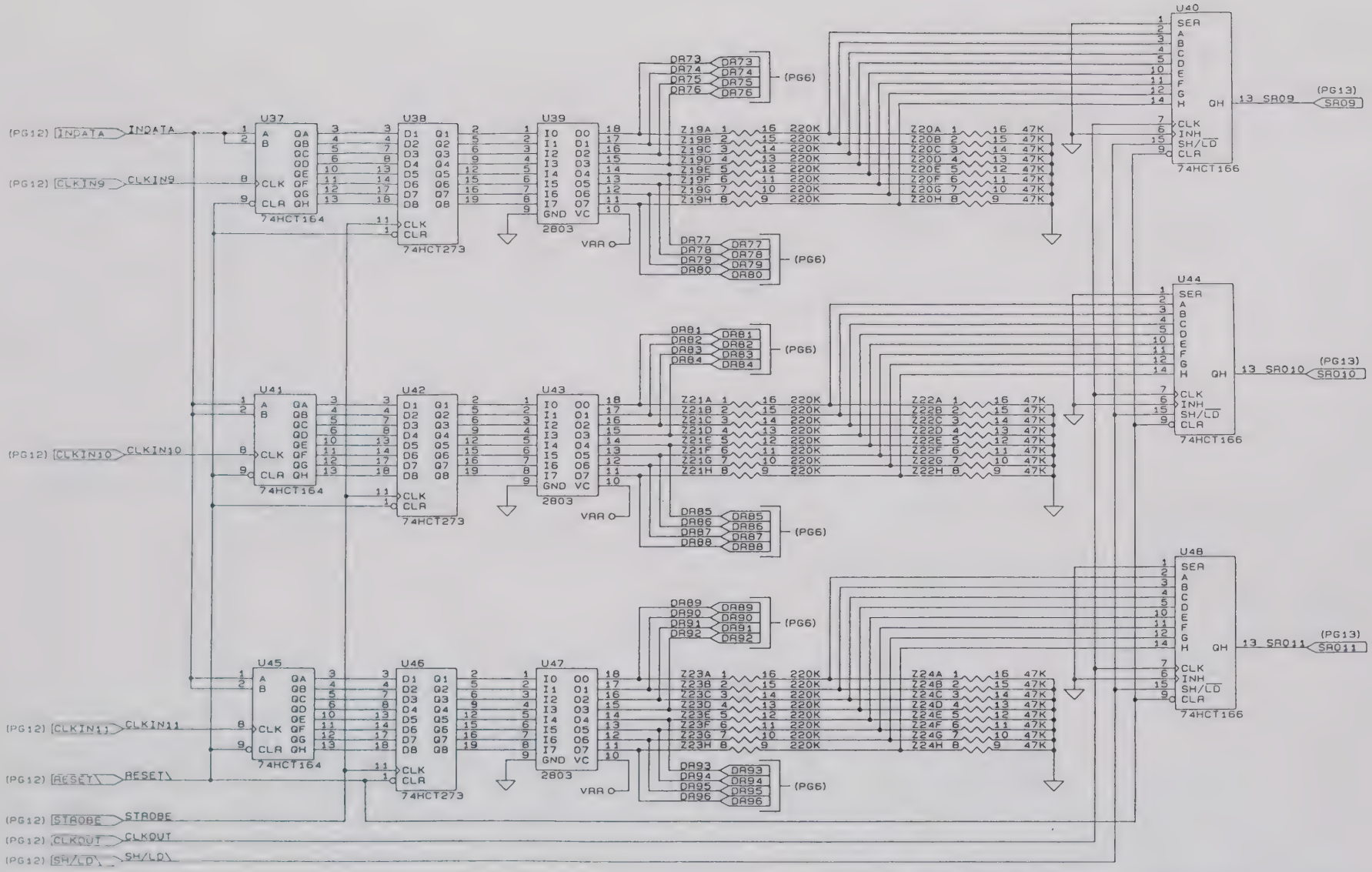
SIZE	CODE IDENT NO.	DOCUMENT NO.	REV
B	21793	431989	A
SCALE		SHEET 7 OF 17	



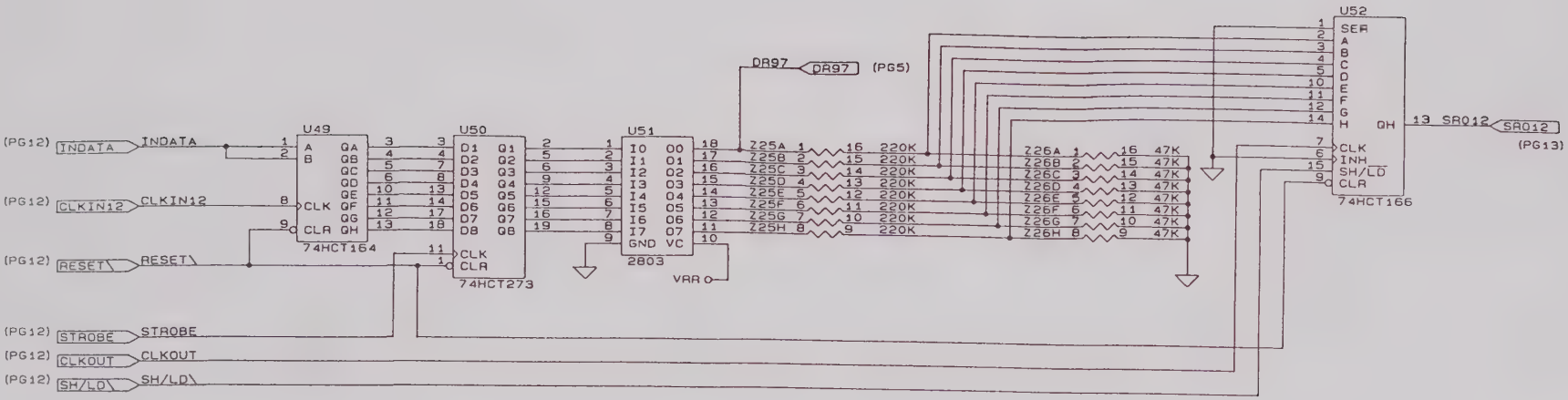
SIZE	CODE IDENT NO	DOCUMENT NO.	REV.
B	21793	431989	A
SCALE		SHEET 8 OF 17	



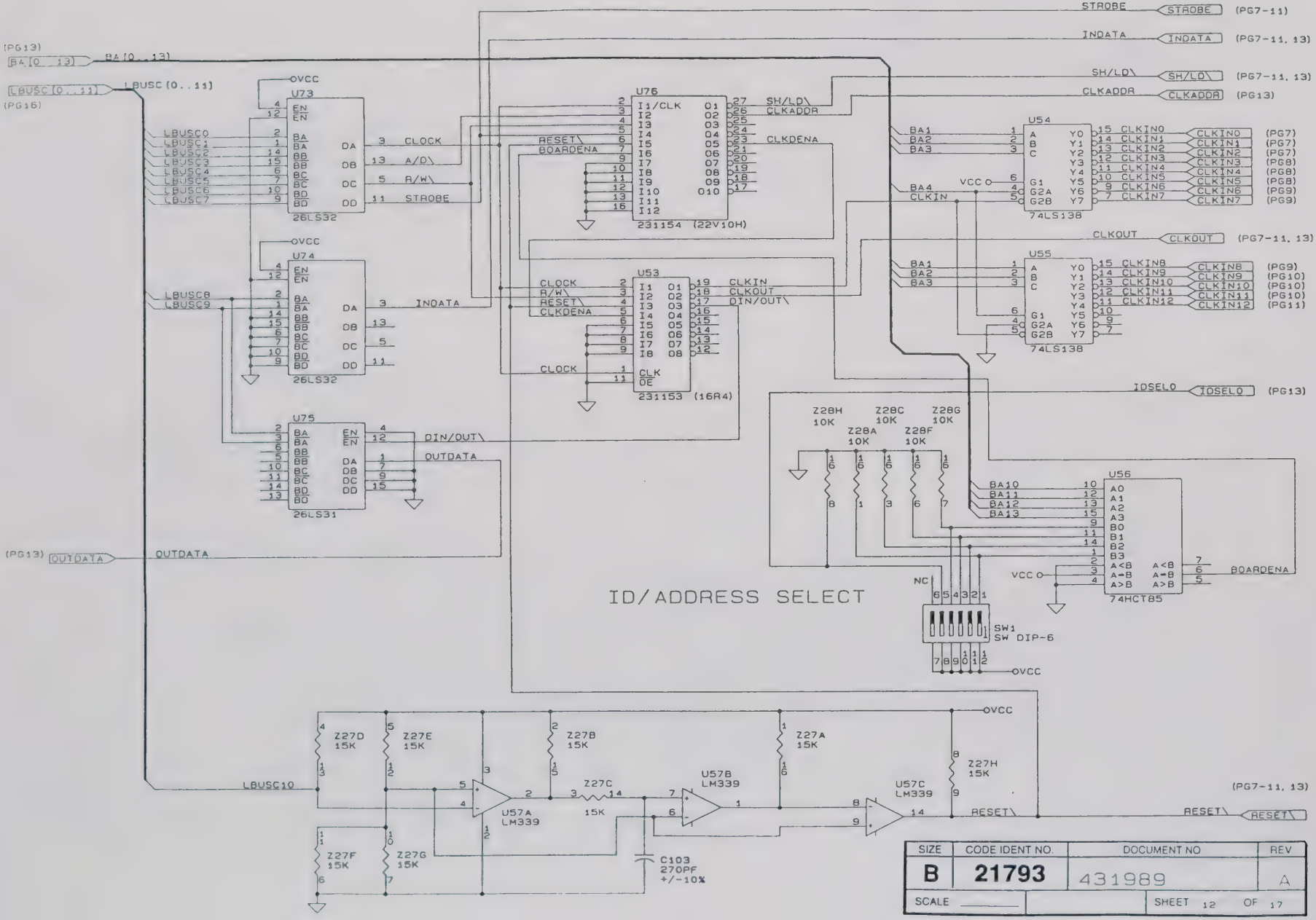
SIZE	CODE IDENT NO.	DOCUMENT NO.	REV.
B	21793	431989	A
SCALE		SHEET 9 OF 17	



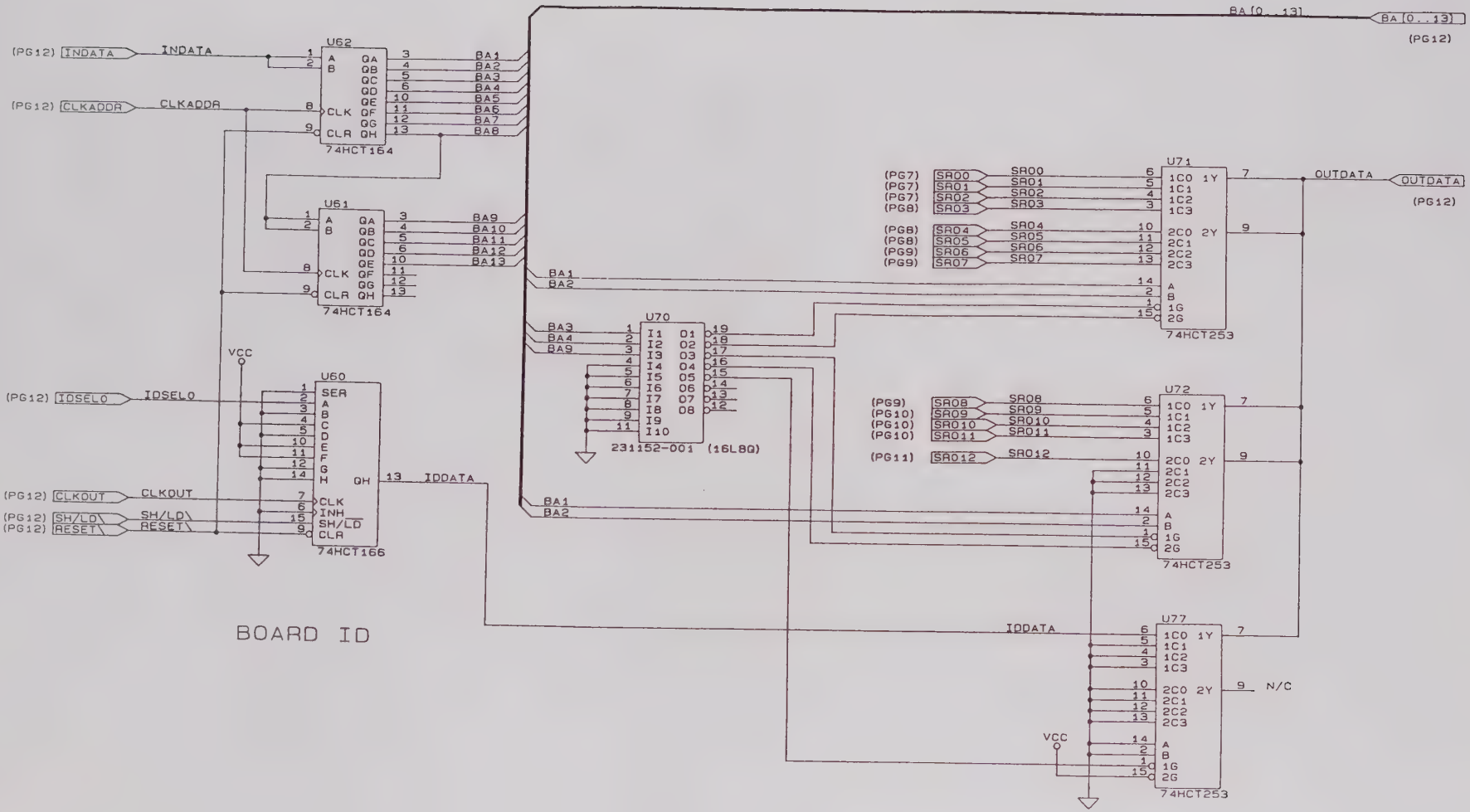
SIZE	CODE IDENT NO.	DOCUMENT NO.	REV.
B	21793	431989	A
SCALE		SHEET 10 OF 17	



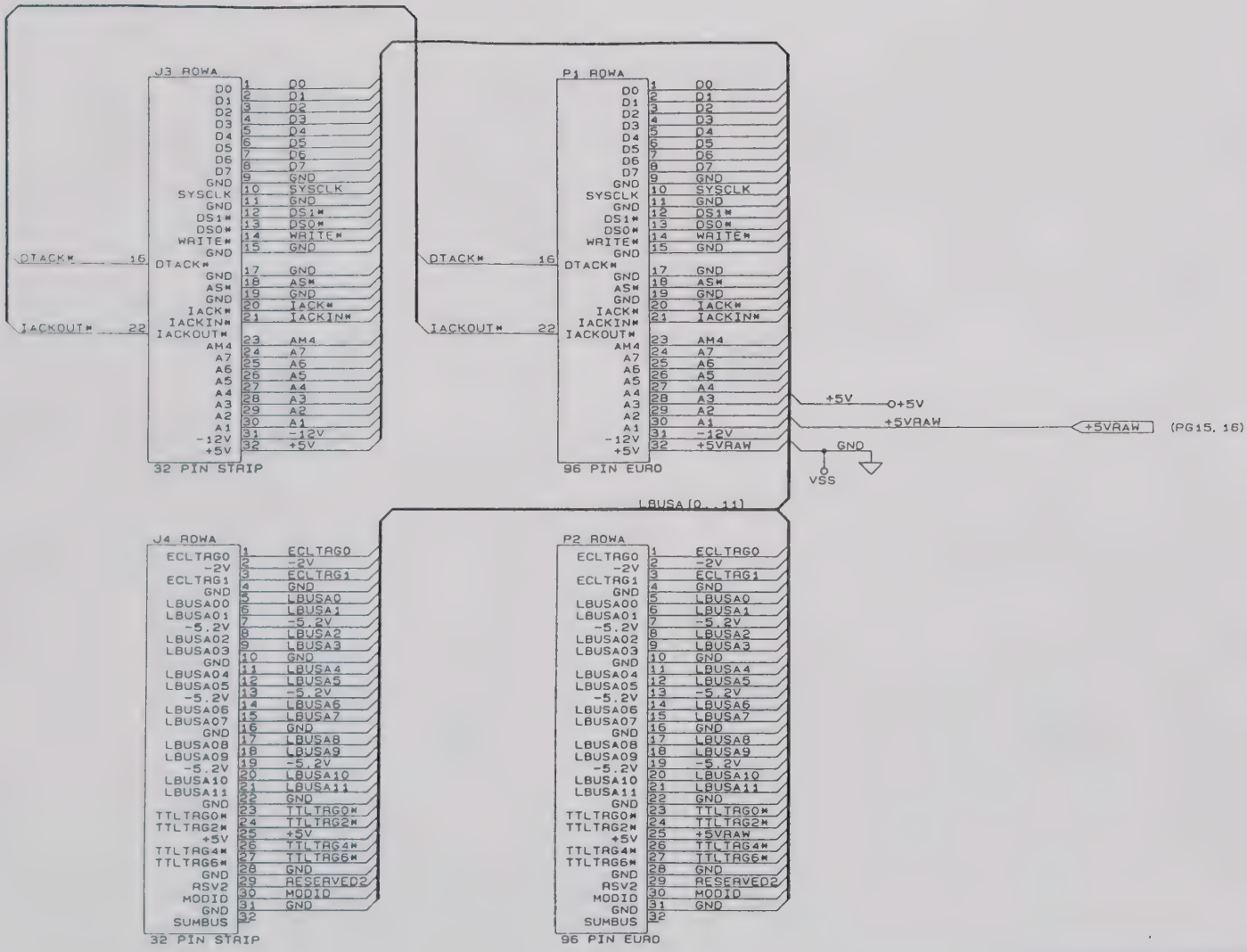
SIZE	CODE IDENT NO.	DOCUMENT NO.	REV.
B	21793	431989	A
SCALE		SHEET 11 OF 17	



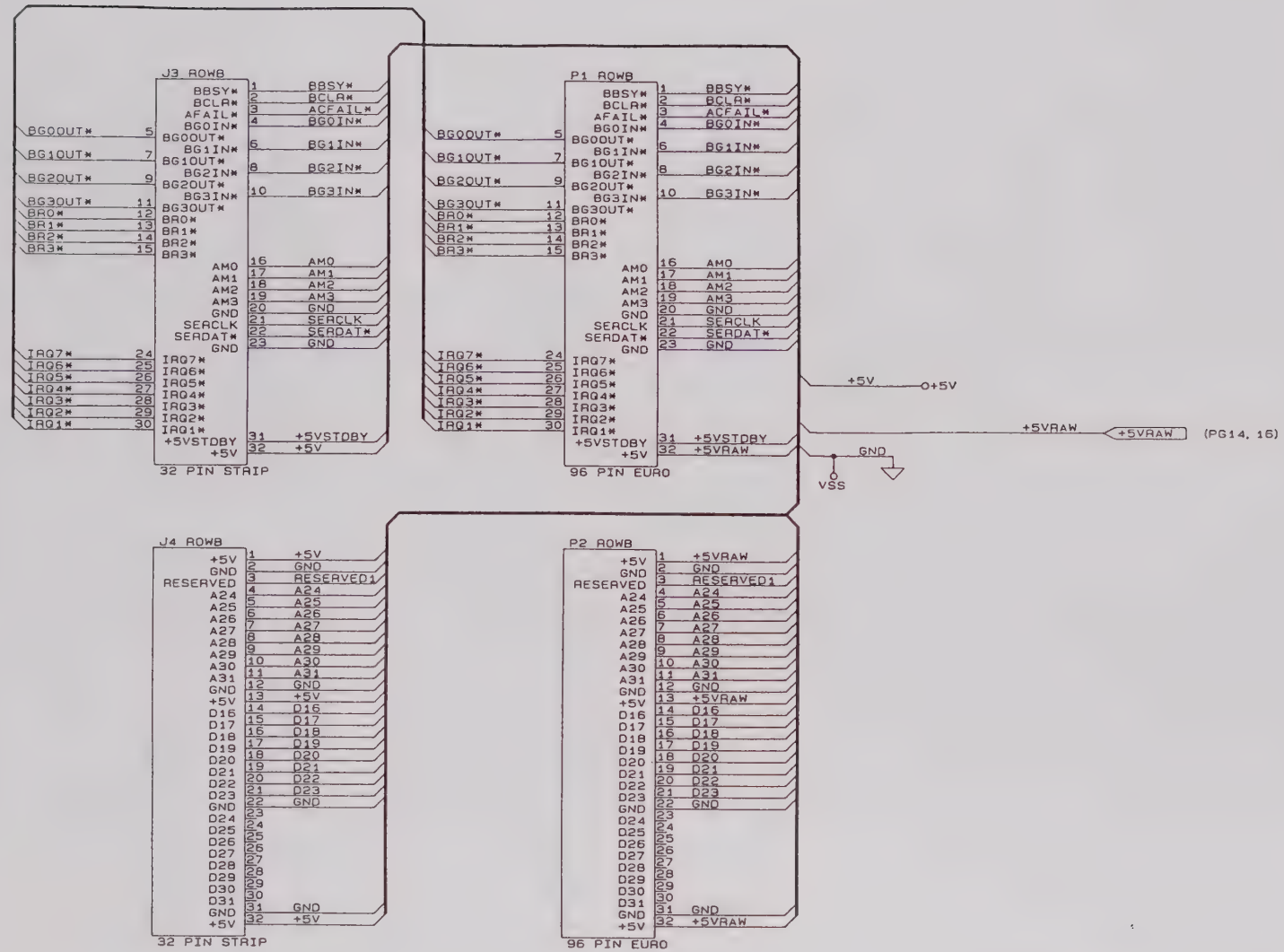
SIZE	CODE IDENT NO.	DOCUMENT NO	REV
B	21793	431989	A
SCALE		SHEET 12 OF 17	



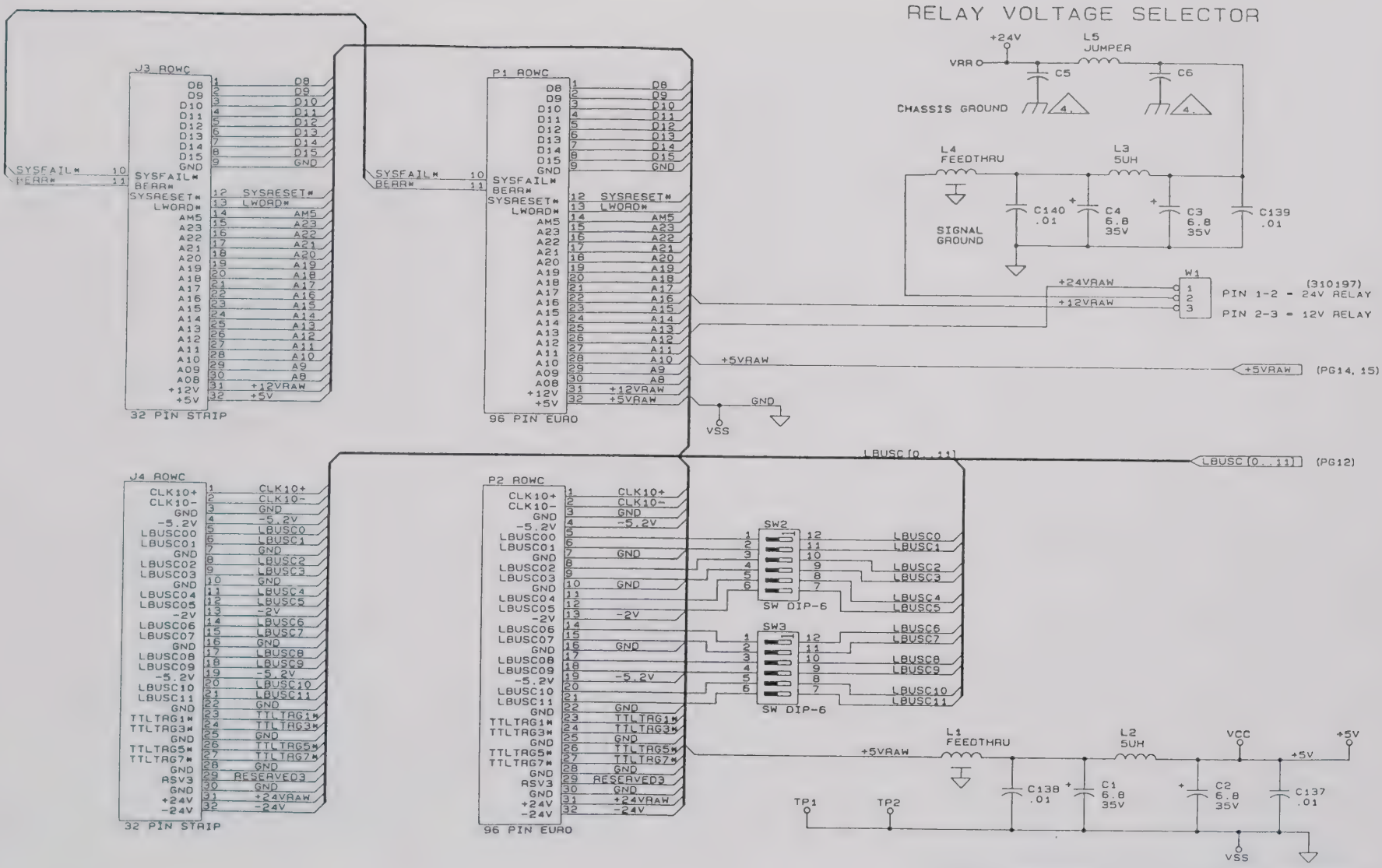
SIZE	CODE IDENT NO.	DOCUMENT NO.	REV
B	21793	431989	A
SCALE		SHEET 13 OF 17	



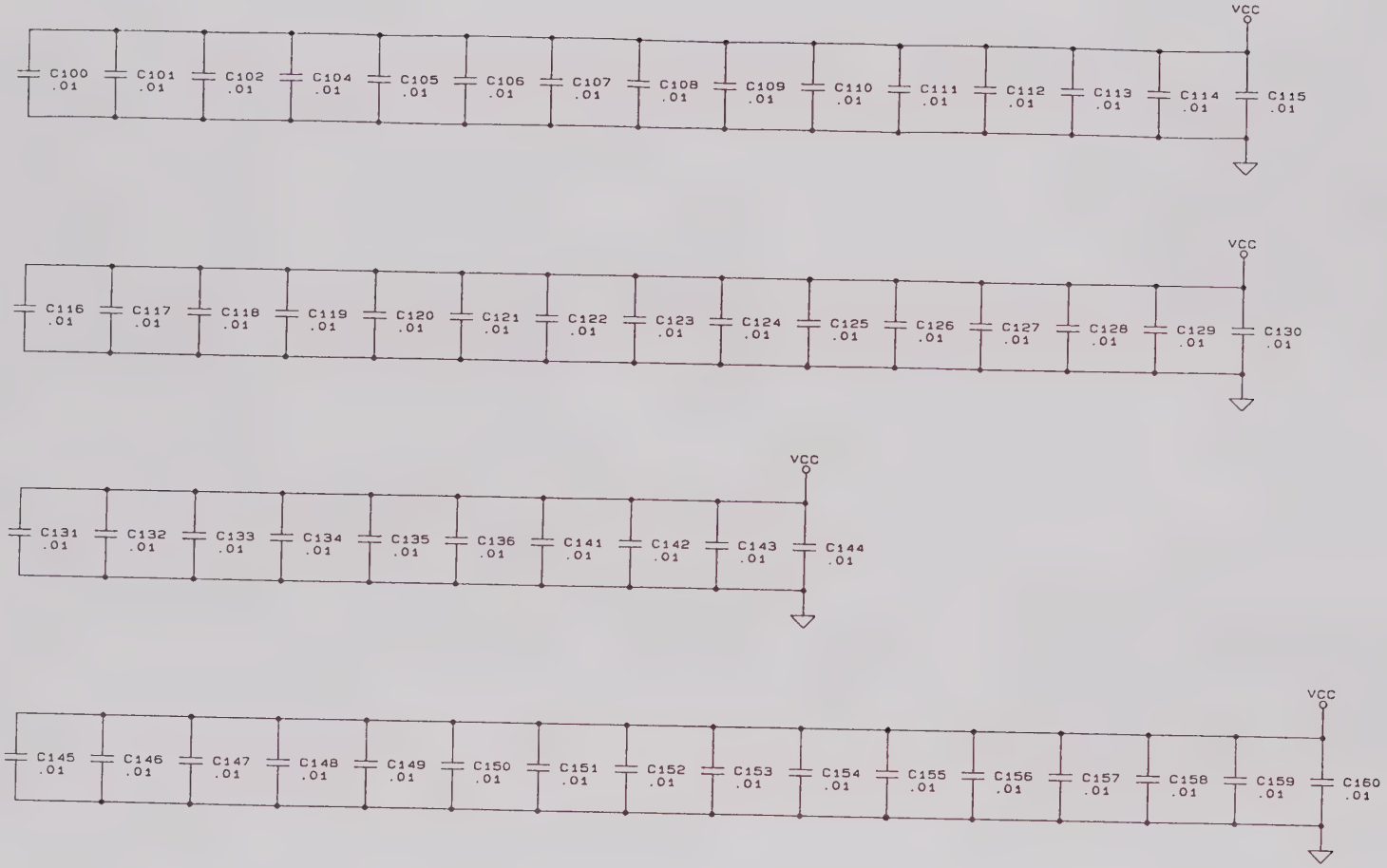
SIZE	CODE IDENT NO.	DOCUMENT NO	REV.
B	21793	431989	A
SCALE		SHEET 14 OF 17	



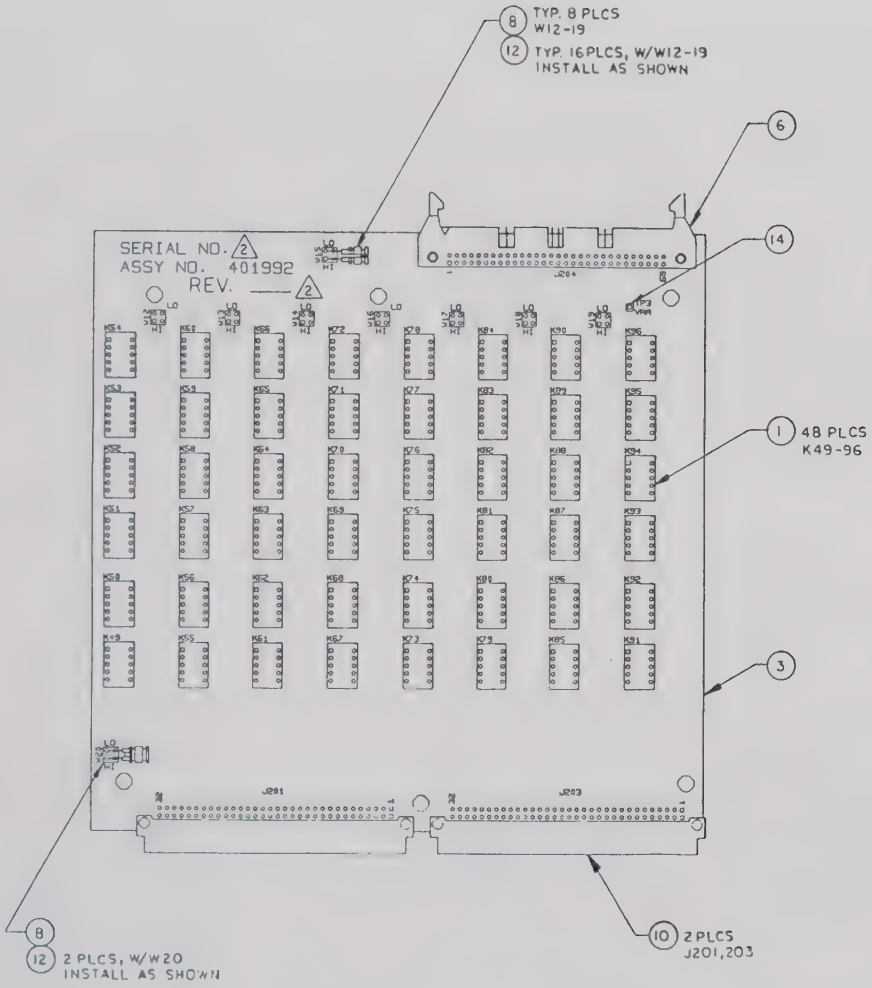
SIZE	CODE IDENT NO.	DOCUMENT NO.	REV.
B	21793	431989	A
SCALE		SHEET 15 OF 17	



SIZE	CODE IDENT NO.	DOCUMENT NO	REV
B	21793	431989	A
SCALE		SHEET 16 OF 17	



SIZE	CODE IDENT NO.	DOCUMENT NO.	REV.
B	21793	431989	A
SCALE ———		SHEET 17 OF 17	



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3 ALL SOLDER TAILS ON CIRCUIT SIDE OF PCB TO BE TRIMMED TO A MAX. HEIGHT OF .045.

2 INK STAMP SERIAL NUMBER, ASSY NUMBER & CURRENT REVISION ON COMPONENT SIDE IN INDICATED AREAS.

1 REFERENCE SCHEMATIC 431992.

NOTES UNLESS OTHERWISE SPECIFIED

Racal Instruments, Inc.			
4 Goodyear St., Irvine, CA. 92718-2002			
DOCUMENT TITLE			
PCB ASSY, 1260-35D			
SIZE	CODE IDENT NO	DOCUMENT NO	REV
D	21793	401992	A
SCALE —		SHEET 1 OF 2	

W20
J204
K96
HIGHEST REF. DES.

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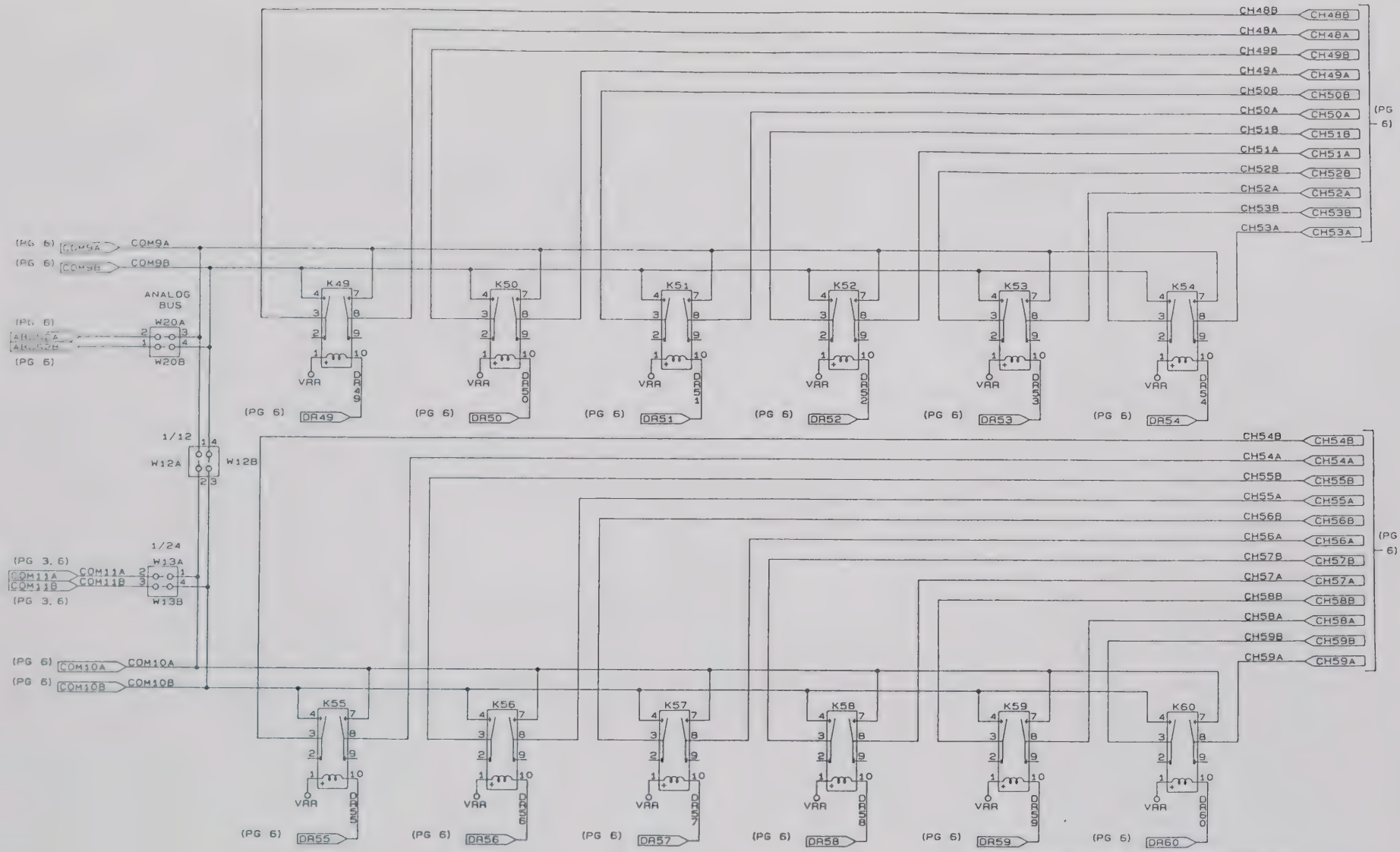
Racal Instruments, Inc.
4 Goodyear St., Irvine, CA, 92718-2002

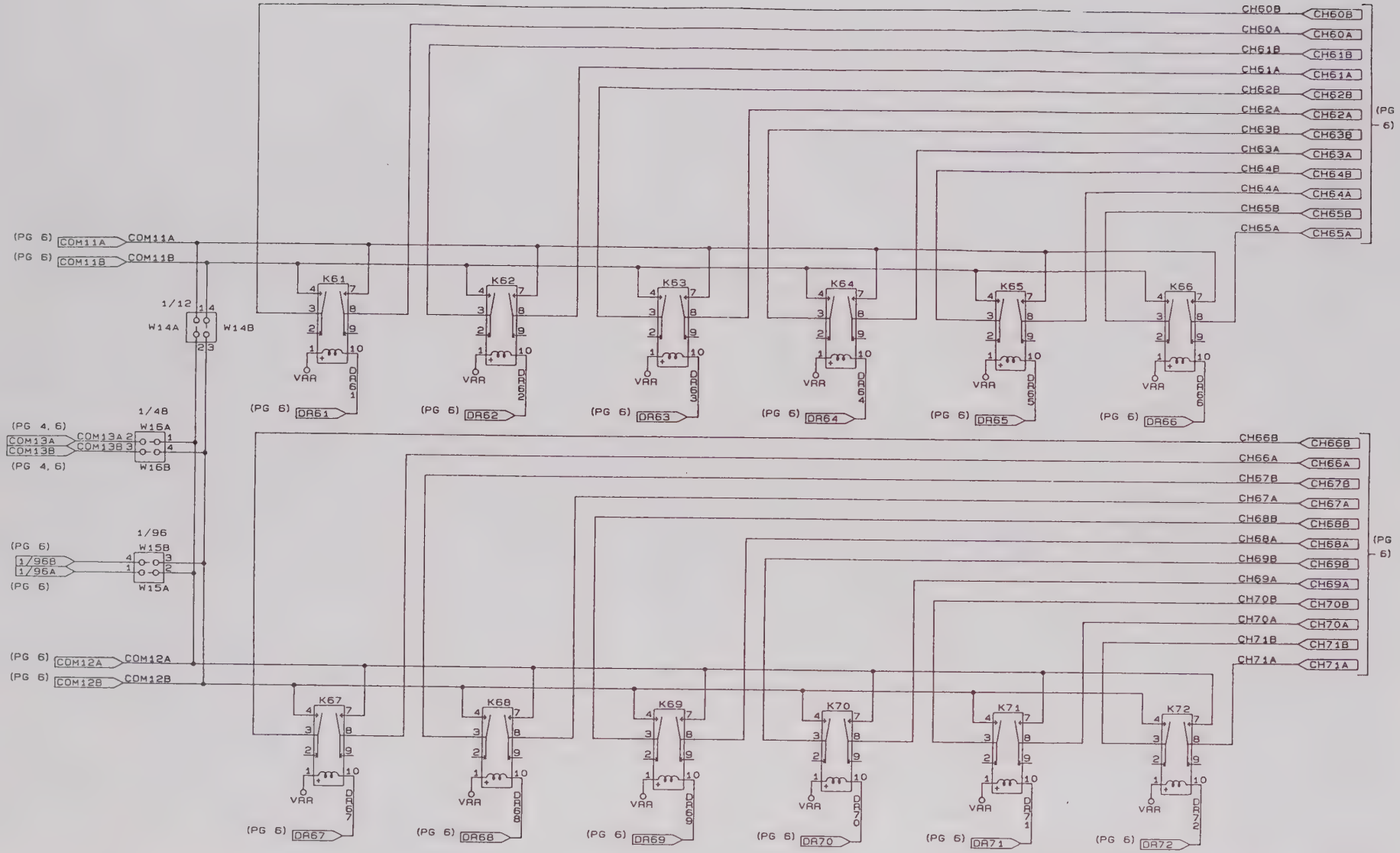
DOCUMENT TITLE			
SCHEM, 1260-35D			
SIZE	CODE IDENT NO	DOCUMENT NO	REV
B	21793	431992	A
SCALE		SHEET 1 OF 6	

1. RELAYS K49 THRU K96 ARE RACAL P/N 310197.
   ALL RELAYS SHOWN IN DE-ENERGIZED POSITION.

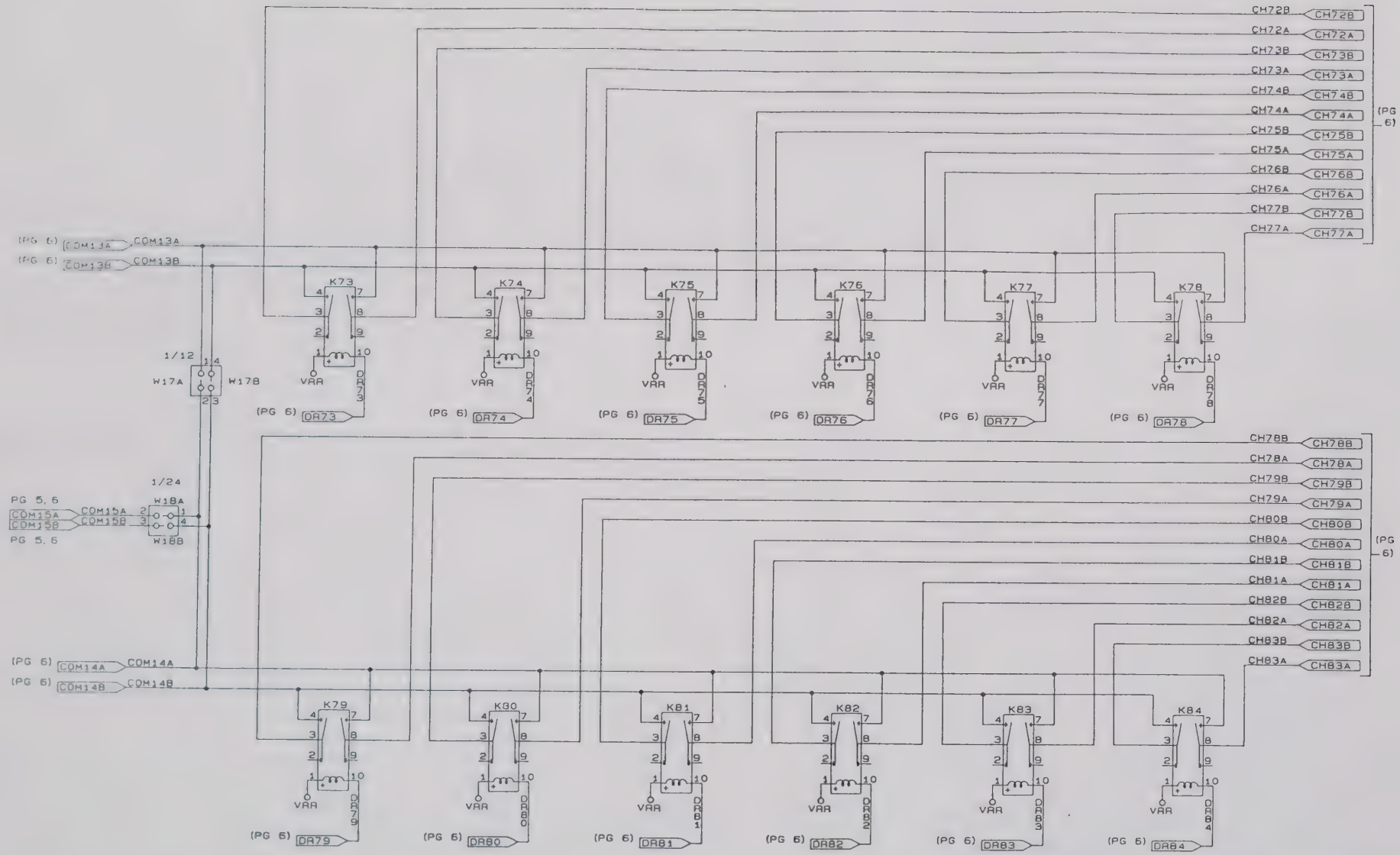
NOTES: UNLESS OTHERWISE SPECIFIED



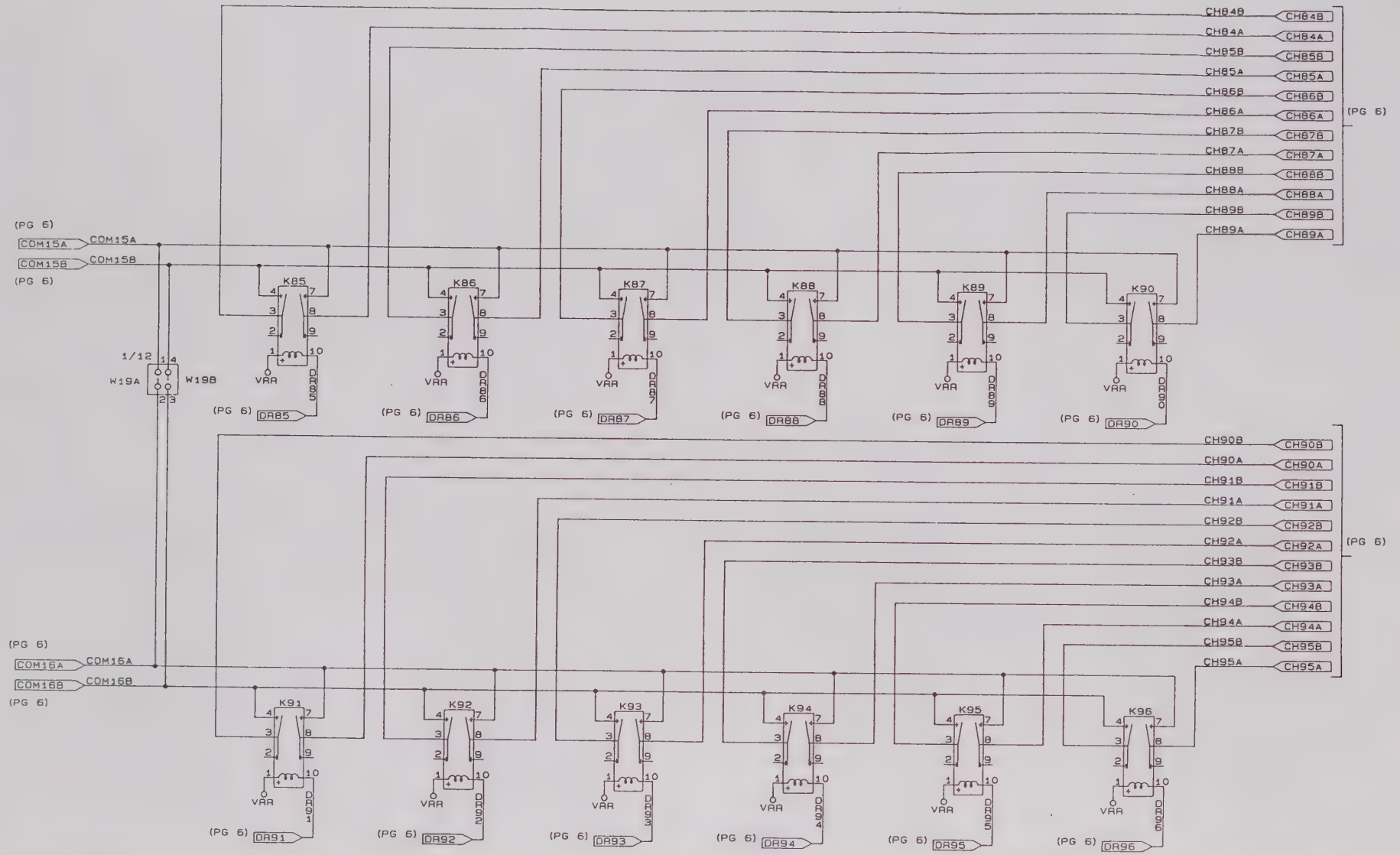
SIZE	CODE IDENT NO.	DOCUMENT NO	REV
B	21793	431992	A
SCALE _____		SHEET 2	OF 6



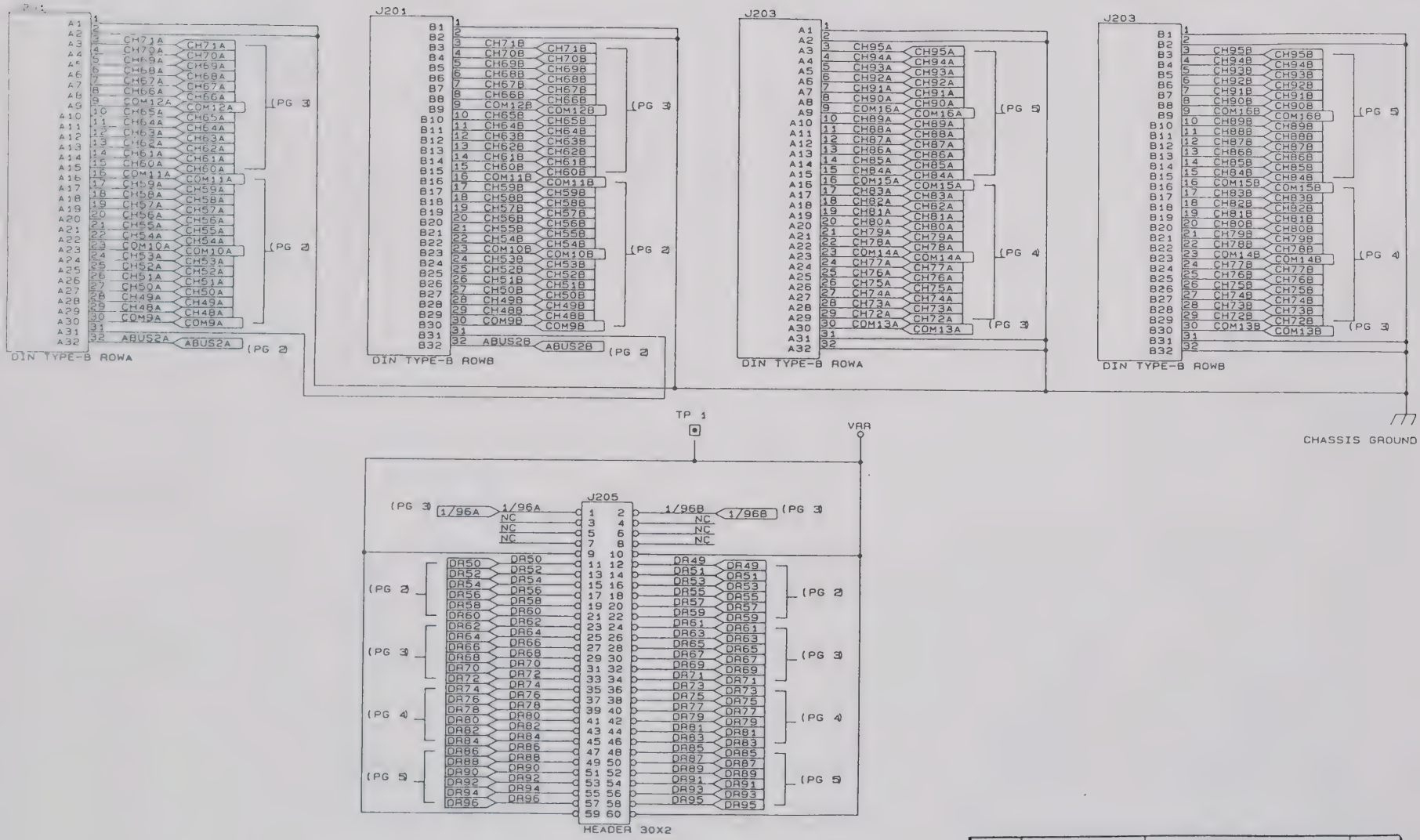
SIZE	CODE IDENT NO.	DOCUMENT NO.	REV.
B	21793	431992	A
SCALE		SHEET 3 OF 6	



SIZE	CODE IDENT NO.	DOCUMENT NO	REV.
B	21793	431992	A
SCALE		SHEET 4	OF 6



SIZE	CODE IDENT NO	DOCUMENT NO.	REV
B	21793	431992	A
SCALE		SHEET 5 OF 6	



SIZE	CODE IDENT NO.	DOCUMENT NO	REV
B	21793	431992	A
SCALE		SHEET 6 OF 6	

404944 - FINAL ASSY, 1260-35

REF DESIG	RACAL INST P/N	DESCRIPTION	FSC	MANUFACTURER'S P/N
{1}1	401989	PCB ASSY., 1260-35	21793	401989
{3}1	401992	PCB ASSY., 1260-35D	21793	401992
{5}1	404975	SHIPPING KIT, 1260-35	21793	404975
{9}1	455814	PANEL, FRONT	21793	455814
{11}1	456238-002	PANEL, RIGHT, 1260-35	21793	456238-002
{13}1	456239-002	PANEL, LEFT, 1260-35	21793	456239-002
{15}1	611264	HANDLE, EXTRACTOR, BOTTOM	62559	20817-327
{16}1	611265	HANDLE, EXTRACTOR, TOP	62559	20817-328
{17}.5	611266	MOUNTING HARDWARE, HANDLE	62559	21100-745
{19}6	616251	SCREW, PPH, SEMS ASSY, 4-40X.250	78189	SEMS ASSY W/SQ CONE WA
{21}2	616405	SCREW, PFH, M2.5-.45 X 12	-	-
{24}6	616414	SCREW, PFL, M3X.50X5	-	-
{27}A/R	920962	LOCTITE, 242, MED STR.	05972	272
{29}1	921059	LABEL, CAUTION, STATIC	21793	921059
{31}1	921148-001	LABEL SET VXI	21793	921148-001
{33}1	921212-010	LABEL, VXI, 1260-35	21793	921212-010
{35}1	921309	LABEL, VXI SWITCH ID	21793	921309

404975 - SHIPPING KIT, 1260-35

REF DESIG	RACAL INST P/N	DESCRIPTION	FSC	MANUFACTURER'S P/N
{1}2	455540	KEY, LOCKOUT, TTL, A/C	21793	455540
{2}2	455541	KEY, LOCKOUT, TTL, A/C	21793	455541
{3}2	455542	KEY, LOCKOUT, TTL, A/C	21793	455542
{6}4	602004	CONNECTOR, TYPE B, FEMALE, 64-PIN	06383	120-064-455
{7}4	602004-001	STRAIN RELIEF, WITH HANDLE	06383	120-000-032
{8}4	602004-002	PULL TAB, SOCKET, 2.5W	06383	LPT-50
{11}3	615013	SCREW, PPF, 2-56 X .188	-	-
{13}1	980673-006	INSTRUCTION MANUAL, 1260-35	21793	980673-006

404944-001 - FINAL ASSY, 1260-35A

REF DESIG	RACAL INST P/N	DESCRIPTION	FSC	MANUFACTURER'S P/N
{1}1	401989	PCB ASSY., 1260-35	21793	401989
{3}1	401992	PCB ASSY., 1260-35D	21793	401992
{5}1	404975-001	SHIPPING KIT, 1260-35A	21793	404975-001
{9}1	455814	PANEL, FRONT	21793	455814
{11}1	456238-002	PANEL, RIGHT, 1260-35	21793	456238-002
{13}1	456239-002	PANEL, LEFT, 1260-35	21793	456239-002
{15}1	611264	HANDLE, EXTRACTOR, BOTTOM	62559	20817-327
{16}1	611265	HANDLE, EXTRACTOR, TOP	62559	20817-328
{17}.5	611266	MOUNTING HARDWARE, HANDLE	62559	21100-745
{19}6	616251	SCREW, PPH, SEMS ASSY, 4-40X.250	78189	SEMS ASSY W/ŠQ CONE WA
{21}2	616405	SCREW, PFH, M2.5-.45 X 12	-	-
{24}6	616414	SCREW, PFL, M3X.50X5	-	-
{27}A/R	920962	LOCTITE, 242, MED STR.	05972	272
{29}1	921059	LABEL, CAUTION, STATIC	21793	921059
{31}1	921148-001	LABEL SET VXI	21793	921148-001
{33}1	921212-010	LABEL, VXI, 1260-35	21793	921212-010
{35}1	921309	LABEL, VXI SWITCH ID	21793	921309

404975-001 - SHIPPING, KIT 1260-35A

REF DESIG	RACAL INST P/N	DESCRIPTION	FSC	MANUFACTURER'S P/N
{1}2	455540	KEY, LOCKOUT, TTL, A/C	21793	455540
{2}2	455541	KEY, LOCKOUT, TTL, A/C	21793	455541
{3}2	455542	KEY, LOCKOUT, TTL, A/C	21793	455542
{6}4	602159-064	CONNECTOR HOUSING, 64-PIN, DIN-B, PLUG	OG8R9	09020643214
{10}256	602159-900	CONTACT, CRIMP, SKT, 28-24 AWG	OG8R9	09020008484
{11}3	615013	SCREW, PPF, 2-56 X .188	-	-
{13}1	980673-006	INSTRUCTION MANUAL, 1260-35	21793	980673-006

401989 PCB ASSY., 1260-35

REF DESIG	RACAL INST P/N	DESCRIPTION	FSC	MANUFACTURER'S P/N
C1	110126	CAP, TANTA, 6.8UF, 35V, 20 PERCENT	05397	T355F685M035A5
C2	110126	CAP, TANTA, 6.8UF, 35V, 20 PERCENT	05397	T355F685M035A5
C3	110126	CAP, TANTA, 6.8UF, 35V, 20 PERCENT	05397	T355F685M035A5
C4	110126	CAP, TANTA, 6.8UF, 35V, 20 PERCENT	05397	T355F685M035A5
C100-C102	R-21-1801	CAP, CHIP, 10 NF	95275	VJ1206Y103MF
C103	130177	CAPACITOR, CHIP, SMD, 270PF	95275	VJ1206A271KXAMT
C104-C160	R-21-1801	CAP, CHIP, 10 NF	95275	VJ1206Y103MF
J3	601925	CONNECTOR, PCB, RECEPT, 3 ROW, 96P	52072	618008
J4	601925	CONNECTOR, PCB, RECEPT, 3 ROW, 96P	52072	618008
J200	602005	CONNECTOR, DIN TYPE B, MALE, 64 PIN	06383	100-064033B
J202	602005	CONNECTOR, DIN TYPE B, MALE, 64 PIN	06383	100-064033B
K1-K48	310197	RELAY, 2 FORM C	61529	TQ2E-24V
K97	310197	RELAY, 2 FORM C	61529	TQ2E-24V
L1	100164	CAP, FEED-THRU,800PF, 50V	00779	842448-2
L2	310193	CHOKE, SHIELDED, 5UH	91637	IH-5-5-10
L3	310193	CHOKE, SHIELDED, 5UH	91637	IH-5-5-10
L4	100164	CAP, FEED-THRU,800PF, 50V	00779	842448-2
L5	600245	JUMPER, INSULATED	52210	L-2007-1
P1	601675-001	CONNECTOR, EUROCARD, 96 PIN MOD.	21793	601675-001
P2	601675-001	CONNECTOR, EUROCARD, 96 PIN MOD.	21793	601675-001
SW1	601969	SWITCH, DIP 6 POS, LOW PROFILE	65832	K406S
SW2	601969	SWITCH, DIP 6 POS, LOW PROFILE	65832	K406S
SW3	601969	SWITCH, DIP 6 POS, LOW PROFILE	65832	K406S
TP1	601197	POST, TEST, .025 SQ	00779	6-87022-6
TP2	601197	POST, TEST, .025 SQ	00779	6-87022-6
U1	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U2	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273
U3	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U4	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U5	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U6	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273
U7	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U8	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U9	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U10	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273
U11	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U12	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U13	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U14	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273
U15	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U16	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U17	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U18	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273
U19	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U20	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U21	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U22	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273
U23	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U24	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U25	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U26	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273
U27	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U28	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U29	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U30	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273
U31	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U32	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U33	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U34	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273

401989 PCB ASSY., 1260-35

REF DESIG	RACAL INST P/N	DESCRIPTION	FSC	MANUFACTURER'S P/N
U35	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U36	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U37	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U38	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273
U39	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U40	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U41	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U42	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273
U43	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U44	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U45	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U46	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273
U47	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U48	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U49	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U50	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273
U51	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U52	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U53	231153	IC, PROGRAMMED PLA	21793	231153
U54	231094	IC, DEMUX DECODER	18324	N74LS138D
U55	231094	IC, DEMUX DECODER	18324	N74LS138D
U56	231135	IC, DIGITAL, 4-BIT COMPARATOR	18324	PC74HCT85D
U57	231093	IC, QUAD COMPARATOR	04713	LM339D
U60	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U61	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U62	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U70	231152-001	IC, DIGITAL 16L8, PAL	21793	231152-001
U71	231147	IC, MULTIPLEXER	04713	74HC253D
U72	231147	IC, MULTIPLEXER	04713	74HC253D
U73	231096	IC, QUAD DIFF RECEIVER	01295	AM26LS32ACD
U74	231096	IC, QUAD DIFF RECEIVER	01295	AM26LS32ACD
U75	231125	IC, DIGITAL, LINE DRIVER	27014	DS26LS31MN
U76	231154	IC, PROGRAMMED PLA	21793	231154
U77	231147	IC, MULTIPLEXER	04713	74HC253D
W2-W11	602007	CONNECTOR, STRAIGHT, DOUBLE ROW, 4 PIN	52072	CAD0423B43
Z1	080119	RES NETWORK, 220K	91637	SOMC-1603-224K
Z2	080117	RES NETWORK, 16P8R, 47K	73138	628-AL-473J
Z3	080119	RES NETWORK, 220K	91637	SOMC-1603-224K
Z4	080117	RES NETWORK, 16P8R, 47K	73138	628-AL-473J
Z5	080119	RES NETWORK, 220K	91637	SOMC-1603-224K
Z6	080117	RES NETWORK, 16P8R, 47K	73138	628-AL-473J
Z7	080119	RES NETWORK, 220K	91637	SOMC-1603-224K
Z8	080117	RES NETWORK, 16P8R, 47K	73138	628-AL-473J
Z9	080119	RES NETWORK, 220K	91637	SOMC-1603-224K
Z10	080117	RES NETWORK, 16P8R, 47K	73138	628-AL-473J
Z11	080119	RES NETWORK, 220K	91637	SOMC-1603-224K
Z12	080117	RES NETWORK, 16P8R, 47K	73138	628-AL-473J
Z13	080119	RES NETWORK, 220K	91637	SOMC-1603-224K
Z14	080117	RES NETWORK, 16P8R, 47K	73138	628-AL-473J
Z15	080119	RES NETWORK, 220K	91637	SOMC-1603-224K
Z16	080117	RES NETWORK, 16P8R, 47K	73138	628-AL-473J
Z17	080119	RES NETWORK, 220K	91637	SOMC-1603-224K
Z18	080117	RES NETWORK, 16P8R, 47K	73138	628-AL-473J
Z19	080119	RES NETWORK, 220K	91637	SOMC-1603-224K
Z20	080117	RES NETWORK, 16P8R, 47K	73138	628-AL-473J
Z21	080119	RES NETWORK, 220K	91637	SOMC-1603-224K
Z22	080117	RES NETWORK, 16P8R, 47K	73138	628-AL-473J
Z23	080119	RES NETWORK, 220K	91637	SOMC-1603-224K
Z24	080117	RES NETWORK, 16P8R, 47K	73138	628-AL-473J

401989 PCB ASSY., 1260-35

REF DESIG	RACAL INST P/N	DESCRIPTION	FSC	MANUFACTURER'S P/N
Z25	080119	RES NETWORK, 220K	91637	SOMC-1603-224K
Z26	080117	RES NETWORK, 16P8R, 47K	73138	628-AL-473J
Z27	080114	RES NETWORK, 16P8R, 15K	73138	628-AL-153J
Z28	080120	RES NETWORK, 10K	11236	767-161R10K
{43}1	401951	PCB ASSY., LBUS JUMPER	21793	401951
{44}1	401951-003	PCB ASSY., P3 JUMPER	21793	401951-003
{45}1	411989	PCB, 1260-35 (UNLOADED)	21793	411989
{48}A/R	500022	WIRE, BARE COPPER/TIN, 22 GA	21793	500022
{58}20	601195	PLUG, JUMPER, 0.1 CTR, LOW PROFILE	00779	530153-2
{66}1	602023	CABLE ASSY., 1DC 60 PIN	21793	602023
{67}6	610257	STANDOFF, SWAGE, 1/4D, 4-40 X .31	06540	9534BB04403A
{71}1	611366	STANDOFF, ROUND SWAGE, M3X0.5X19	06540	21017-B-0350-28
{72}2	611367	STANDOFF, ROUND SWAGE, M3X0.5X4.3	06540	21003B-B-0350-28(L4.3)
{74}1	920927	BUMPER	53387	SJ-5003

401992 PCB ASSY., 1260-35D

REF DESIG	RACAL INST P/N	DESCRIPTION	FSC	MANUFACTURER'S P/N
J201	602005	CONNECTOR, DIN TYPE B, MALE, 64 PIN	06383	100-064033B
J203	602005	CONNECTOR, DIN TYPE B, MALE, 64 PIN	06383	100-064033B
J204	602008	CONNECTOR, RIGHT ANGLE, 60 PIN	52072	CA-60HRM-1F-S
K49-K96	310197	RELAY, 2 FORM C	61529	TQ2E-24V
TP3	601197	POST, TEST, .025 SQ	00779	6-87022-6
W12-W20	602006	CONNECTOR, RIGHT ANGLE, 4 PIN	52072	CA-D04R-23R-09
{3}1	411992	PCB, 1260-35D (UNLOADED)	21793	411992
{12}18	601195	PLUG, JUMPER, 0.1 CTR, LOW PROFILE	00779	530153-2

List of Suppliers

FSC	SUPPLIER
00779	AMP, INC. HARRISBURG, PA
01295	TEXAS INSTRUMENTS, INC. DALLAS, TX
04713	MOTOROLA, INC. (SEMICONDUCTOR PRODUCTS DIV.) PHOENIX, AZ
05397	UNION CARBIDE CORP. (MATERIALS SYSTEMS DIV.) CLEVELAND, OH
05972	LOCTITE CORP. HARTFORD, CT
06383	PANDUIT CORP. TINLEY PARK, IL
06540	AMATOM ELECTRONIC HARDWARE NEW ROCHELLE, NY
11236	CTS OF BERNE, INC. BERNE, IN
18324	SIGNETICS, INC. SUNNYVALE, CA
21793	RACAL INSTRUMENTS INC. IRVINE, CA
27014	NATIONAL SEMI-CONDUCTOR CORP. SANTA CLARA, CA
52072	CIRCUIT ASSY. CORP. COSTA MESA, CA
52210	GETTING ENGRG. & MFG. CO. SPRING MILLS, PA
53387	THREE M (3M) CO. ST. PAUL, MN
56289	SPAGUE ELECTRIC CO. N. ADAMS, MA
61529	AROMAT CORP. CUPERTINO, CA
62559	SCHROFF, INC. WARWICK, RI
65832	AMERICAN RESEARCH & ENGINEERING ELGIN, IL
73138	BECKMAN INSTRUMENTS FULLERTON, CA
78189	ILLINOIS TOOL WORKS, INC. (SHAKEPROOF DIV.) ELGIN, IL
91637	DALE ELECTRONICS, INC. COLUMBUS, NE
95275	VITRAMON, INC. BRIDGEPORT, CT
OG8R9	HARTING ELECTRONICS HOFFMAN ESTATES, IL

REPAIR AND CALIBRATION REQUEST FORM

To allow us to better understand your repair requests, we suggest you use the following outline when calling and include a copy with your instrument to be sent to the Racal Repair Facility.

Model No._____ Serial No._____ Date_____

Company Name_____ P.O.No._____

Billing Address_____
City State Zip

Shipping Address_____
City State Zip

Technical Contact_____ Phone Number ( )_____

Purchasing Contact_____ Phone Number ( )_____

1. Describe, in detail, the problem and symptoms you are having. Please include all set up details, such as input/output levels, frequencies, waveform details, etc.

_____

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_____

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2. If problem is occurring when unit is in remote, please list the program strings used and the controller type.

_____

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3. Please give any additional information you feel would be beneficial in facilitating a faster repair time (i.e., modifications, etc.)

_____

_____

_____

4. Is calibration data required? Yes No (please circle one)

Call <u>before</u> shipping:

Customer Service
(800) 722-3262

Ship instrument to:

Customer Service Department
Racal Instruments Inc.
4 Goodyear Street
Irvine, CA 92718

<u>Note</u>: We do not accept "collect" shipments.

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